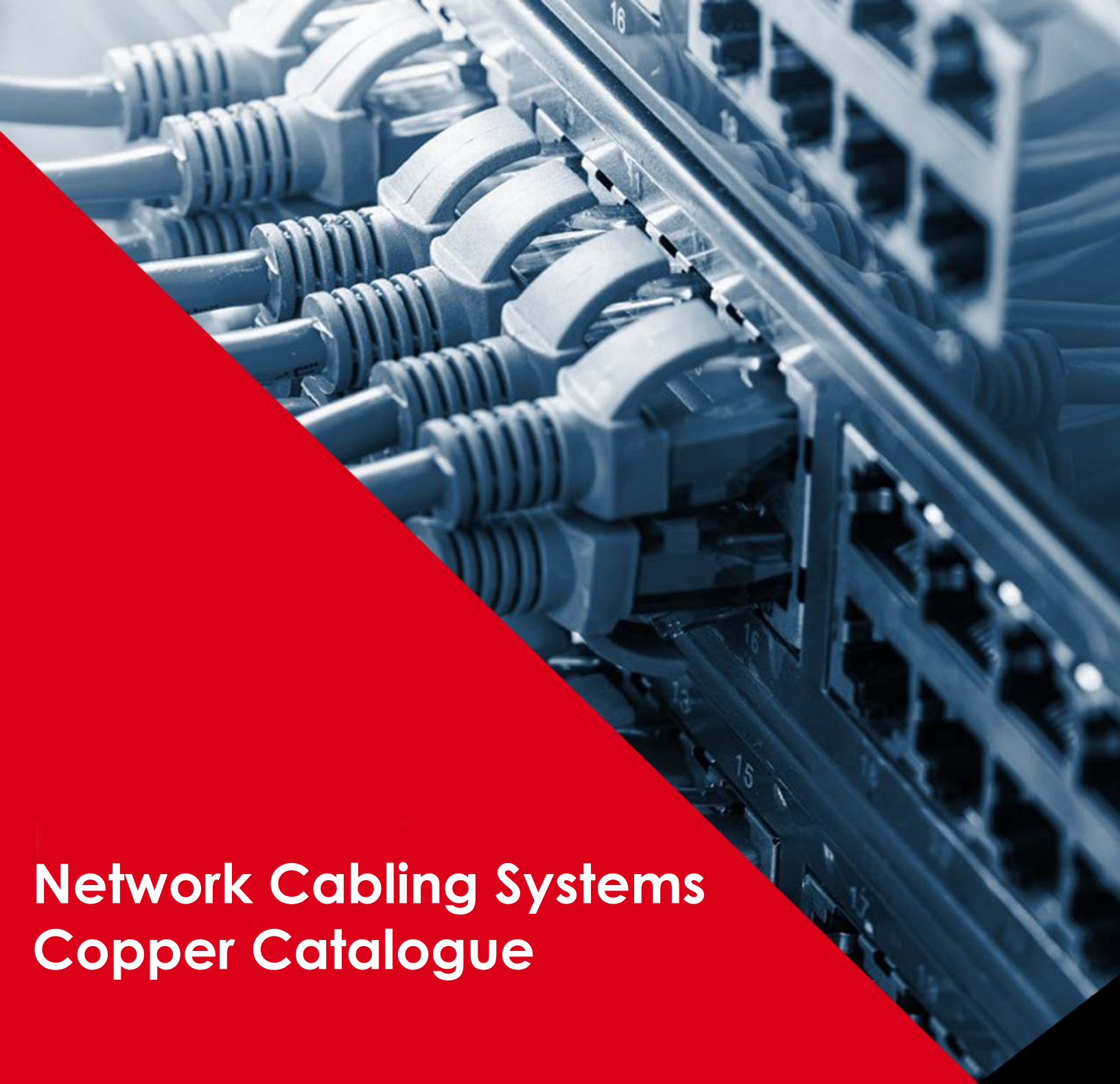


# Network Cabling Systems
# Copper Catalogue

VOYGAR

QUALITY IS OUR CONCERN

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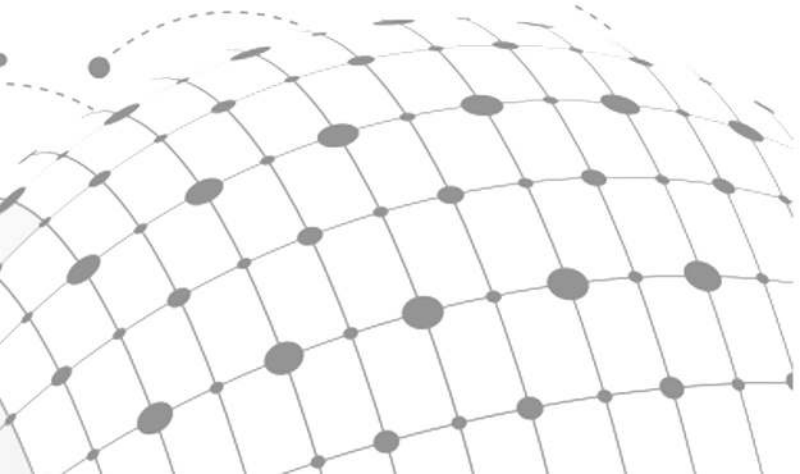


# RELIABLE END TO END SOLUTIONS

VOYGAR Connecting System offers a diverse product selection of connectivity products that include various types of copper LAN cables and copper components, fiber optical cables and fiber accessories, airblown fiber cable, and data center equipment.

At VOYGAR, we offer quality network solutions, from structured cabling system (SCS) to networking components and data center equipment that support all of today's network infrastructure.

We have the expertise, resources, and relationships to deliver top quality communication products promptly. We have many partnerships with connectivity manufacturers in the voice and data industry worldwide, so you no longer need to look for multiple manufacturers yourself. VOYGAR SYSTEMS has everything you need and provides you one-stop shopping experience.



## High Quality standard

The products are manufactured and tested to strict guidelines ensuring a consistent level of performance, designed to exceed the relevant standards.
We are confident of the quality of our products. Regardless of the cables series, our items are manufactured only with the best materials, on the most expertized plants. Under stringiest control, our samples from each batch are tested directly at the plant.

# Copper System solution



VOYGAR Connecting Systems offers end-to-end copper cabling solution to support its customers and partners in the region of data center, horizontal distribution and working area.

- CAT6 Unshielded Solutions
- CAT6 Shielded Solutions
- CAT6A Unshielded Solutions
- CAT6A Shielded Solutions
- CAT 7 Shielded Solutions
- CAT 7A Shielded Solutions

VOYGAR copper cables are easy to install, reducing installation time and minimizing costs. We provide the shielded and unshielded copper cable solutions that are suitable for all types of horizontal cabling and backbone cabling.
Our copper cables are rated in LSZH, CM, CMR and CMP that can be deployed in enterprise, building or transportation networks.

Shielded and unshielded RJ45 keystone jacks.
The keystone jacks are in highest levels of quality and reliability, whether supporting mission critical applications with our shielded solution or a small cabling network with the unshielded solutions.

Shielded and unshielded RJ45 keystone jacks patch panels, the panels are designed for better cable management and with the option of flat and angled style. The copper patch panels are come with loaded or unloaded options. Copper patch panels are available in Category 6 and Category 6A

Each cabling infrastructure is a strategic and long-term investment that is expected to deliver the highest level of reliability and stability. The 25-year VOYGAR Connecting Systems warranty provides the necessary investment protection.

Our Structure Cabling Solution meets the various demand of modern network connection, further optimizing the overall solution of data centre infrastructure on the basis of end-to-end whole series products.

VOYGAR Connecting Systems Structure Cabling Solution accumulates rich experience in different industries and large projects in global range, understanding the different of the network environment, using requirements and technical requirements, etc. in different industries and users, in order to satisfy the demands of various industries wiring.

- Education Structure Cabling Solution
- Medical Structure Cabling Solution

- Government Structure Cabling Solution
- Hotel Structure Cabling Solution
- Finance Structure Cabling Solution

All products are designed to support current and future network growth needs as well as the integration of developing technologies. Each system contains full connectivity, comprising of cables, patch panels, patch cords, modular jacks, and patch cords that support all LAN applications including VoIP and Power over Ethernet.

All VOYGAR products have a 25 year performance warrantee when installed as per TIA or ISO/IEC standards. For the products to qualify for warrantee, the structured cabling system should be installed as per following:

Meet TIA/EIA commercial building wiring standards.

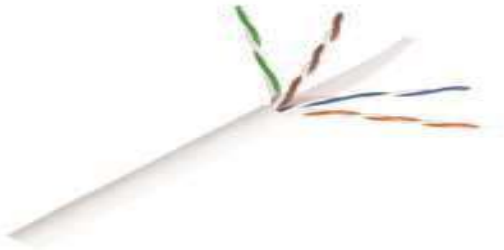
VOYGAR categorized product must be used in concurrence with an equivalent or higher category UL or ETL certified cable.
VOYGAR products must be installed as per standard and universally accepted installation guidelines.
If any VOYGAR product fails to perform despite above guidelines, VOYGAR will replace with a new component free of charge.

**The warrantee shall be void upon any of the below occurrences:**

- If unauthorized cable is used in conjunction with VOYGAR cable.
- If unauthorized modifications are made to the product.
- If unreported damages occurred during shipment of the product.
- If the product is damaged due to power surges or water exposure.

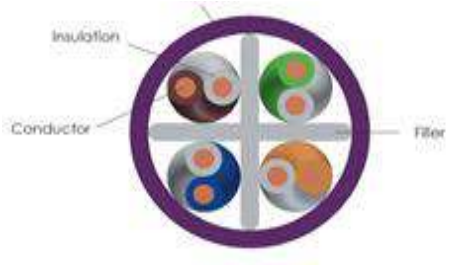
## Compliance

# U/UTP CAT6 cable



VOYGAR Solid bare copper conductors insulated with polyolefin. Two insulated conductors twisted together to form a pair and four such pairs cabled to form the basic unit. A cross filler is cabled in between to separate the 4 pairs insulated conductors. Overall jacket with PVC or LSZH compound.

## Features




250 MHz with over 2.5Gbps
25 Years Warranty
Unshielded
LSZH, PVC jackets
Available in different colors and lengths
Durable for 750 insertion cycles

## Reference Standards

International: IEC 61156-5 edit 2.0
North American: TIA-568-C.2 Cat.6

## Certificates

Delta EC, ETL

## Specifications

| | | |
|---|---|---|
| **Conductor** | Size | 23AWG |
| | Type | Solid bare copper |
| | Diameter (mm) | 0.55± 0.01 |
| **Insulation** | Type | PE |
| | Diameter (mm) | 0.973± 0.05 |
| | Min. thickness (mm) | 0.186 |
| **Central Element** | Type | PE cross separator |
| **Jacket** | Type | PVC/ LSZH |
| | Overall Diameter (mm) | 6.1 ± 0.3 |

## Physical Specifications

| | | |
|---|---|---|
| **Cold bend test** | -20 ± 2℃ X 4hrs no. crack | |
| **Dielectric strength** | AC 1.7 KV for 2S. | |
| **Insulation** | **Before Aging** | **After aging** |
| **Min. Tension strength (psi)** | 2400 | 75% before aging (100℃ X 48hrs) |
| **Min elongation (%)** | 300 | 75% before aging (100℃ X 48hrs) |
| **Jacket** | | |
| **Min. Tension strength (psi)** | 2000 | 75% before aging (100℃ X 168hrs) |
| **Min elongation (%)** | 100 | 50% before aging (100℃ X 168hrs) |
| **Min. bending radius (mm)** | 50 | |
| **Max. pulling tension (lbs)** | 25 | |
| **Installation temperature** | -10℃ to +60℃ | |
| **Operating temperature** | -10℃ to +60℃ | |

## Transmission Performance

IEC 61156-5 ed2.0 Category 6 horizontal cable parameters

| Freq. (MHz) | Ins. Loss (dB/100m) | RL (dB) | Pair to Pair | | Power Sum | | Po. Delay (ns/100) |
|---|---|---|---|---|---|---|---|
| | | | NEXT | ELFEXT | NEXT | ELFEXT | |
| | | | (dB/100m) | | (dB/100m) | | |
| | Max. | Min. | Min. | Min. | Min. | Min. | Max. |
| 1 | 2.1 | 20 | 75.0 | 68.0 | 72.3 | 65.0 | 570.0 |
| 4 | 3.8 | 23 | 66.3 | 56.0 | 63.3 | 53.0 | 552.0 |
| 10 | 6.0 | 25 | 60.3 | 48.0 | 57.3 | 45.0 | 545.4 |
| 16 | 7.6 | 25 | 57.2 | 43.9 | 54.2 | 40.9 | 543.0 |
| 20 | 8.5 | 25 | 55.8 | 42.0 | 52.8 | 39.0 | 542.0 |
| 31.25 | 10.7 | 23.6 | 52.9 | 38.1 | 49.9 | 35.1 | 540.4 |
| 62.5 | 15.5 | 21.5 | 48.4 | 32.1 | 45.4 | 29.1 | 538.6 |
| 100 | 19.9 | 20.1 | 45.3 | 28.0 | 42.3 | 25.0 | 537.6 |
| 200 | 29.1 | 18 | 40.8 | 22.0 | 37.8 | 19.0 | 536.5 |
| 250 | 33.0 | 17.3 | 39.3 | 20.0 | 36.3 | 17.0 | 536.3 |

## Ordering Information

| P/N | Description |
|---|---|
| V-C6E4UP32 | VOYGAR XLAN-350 U/UTP PVC 4PR24 CAT6 Eca box 305M light ivory |
| C6E3UP31 | VOYGAR CAT6 UTP 23AWG, PVC CABLE 305M, White |
| C6E3UP39 | VOYGAR CAT6 UTP 23AWG, PVC CABLE 305M, Blue |
| C6E3UP37 | VOYGAR CAT6 UTP 23AWG, PVC CABLE 305M, Orange |
| C6E3UP34 | VOYGAR CAT6 UTP 23AWG, PVC CABLE 305M, Grey |
| C6E3UP38 | VOYGAR CAT6 UTP 23AWG, PVC CABLE 305M, Red |
| C6E3UL31 | VOYGAR CAT6 UTP 23AWG, LSZH CABLE 305M, White |
| C6E3UL39 | VOYGAR CAT6 UTP 23AWG, LSZH CABLE 305M, Blue |
| C6E3UL37 | VOYGAR CAT6 UTP 23AWG, LSZH CABLE 305M, Orange |
| C6E3UL34 | VOYGAR CAT6 UTP 23AWG, LSZH CABLE 305M, Grey |
| C6E3UL38 | VOYGAR CAT6 UTP 23AWG, LSZH CABLE 305M, Red |
| C6E3UP51 | VOYGAR CAT6 UTP 23AWG, PVC CABLE 500M, White |
| C6E3UP59 | VOYGAR CAT6 UTP 23AWG, PVC CABLE 500M, Blue |
| C6E3UP57 | VOYGAR CAT6 UTP 23AWG, PVC CABLE 500M, Orange |
| C6E3UP54 | VOYGAR CAT6 UTP 23AWG, PVC CABLE 500M, Grey |
| C6E3UP58 | VOYGAR CAT6 UTP 23AWG, PVC CABLE 500M, Red |
| C6E3UL51 | VOYGAR CAT6 UTP 23AWG, LSZH CABLE 500M, White |
| C6E3UL59 | VOYGAR CAT6 UTP 23AWG, LSZH CABLE 500M, Blue |
| C6E3UL57 | VOYGAR CAT6 UTP 23AWG, LSZH CABLE 500M, Orange |
| C6E3UL54 | VOYGAR CAT6 UTP 23AWG, LSZH CABLE 500M, Grey |
| C6E3UL58 | VOYGAR CAT6 UTP 23AWG, LSZH CABLE 500M, Red |

# UTP CAT6 Keystone Jack



Category 6 UTP Keystone jack modules are designed and manufactured to meet and exceed the ISO, CENELEC and TIA standards available in a choice of 90°, 180° shuttered and non-shuttered. This delivers Class FA link and channel performance supporting all applications detailed and proposed within the standards. This superior performance cable is ETL Component Verified.

## Features & Benefits

Quick and easy to install
180 degrees punch down Solid Cable
Meets or exceeds TIA /EIA 568 B .2, ISO/IEC11801
Phosphor bronze with 50um gold plated
Easy wiring fit for 110 punch-down tools
Termination solid wire 22 ~ 26AWG

## General Specifications

| | |
|---|---|
| Design | RJ45, 180degree, with push-in dust cover |
| Category | Cat.6 |
| Shielding | Unshielded |
| IDC Labels Colour coded to | T568A and T568B |
| Retention | 50N |
| Current rating | 1.5 AMP |
| Contact resistance | 20 mΩ Max. |
| IDC Contact resistance | 2.5 mΩ Max. |
| Insulation resistance | 500MΩ Min. @ 100VDC |
| Dielectric strength | 1000V AC RMS 60Hz 1MIN |
| Housing material | High Impact flame retardant UL94V-0 Rated |
| Insert material | PC+20%GF UL94V-0 |
| PCB material | FR4, 1.6mm Thickness |
| Contact material | 50 min Gold plated over 70-100min nickel Phosphor bronze |
| Wire AWG | 22 ~ 24 |
| Jack insertion life | >750 mating cycles |
| IDC insertion life | >250 mating cycles |
| Operating Temperature Range | -10 to +60°C |
| Storage Temperature Range | -40 to +70°C |
| Flame retardance | UL 94 V-0 |
| Product certifications | ETL verified |

## Applications

SDN
Ethernet 10 BaseT
Fast Ethernet 100 BaseTX
Gigabit Ethernet 1000 BaseT
Gigabit Ethernet 1000 BaseTX
Token Ring 4/16 Mbit/s
ATM 155 Mbit/s
VoIP (Voice over IP)
PoE (Power over Ethernet)

## Standards

UL / DELTA EC
ANSI/TIA-568.C.2:2009
ISO/IEC 11801:2011 (Ed 2.2) Class E
CENELEC EN 50173-1:2011
ANSI/TIA-1096-A (formerly FCC Part 68)
IEC 60603-7-4
ROHS Complaint

## Ordering Information

| P.N | Description |
|---|---|
| K6EU80T1 | VOYGAR Cat6, UTP Keystone Jack, 180 degree Short Body, Tool less, White |
| K6EU81T1 | VOYGAR Cat6, UTP Keystone Jack, 180 degree Tool less with Dust cover, White |
| K6EU80T0 | VOYGAR Cat6, UTP Keystone Jack, 180 degree Tool less, Black |
| K6EU80D0 | VOYGAR Cat6, UTP Keystone Jack, 180 degree Punch down, Black. |
| K6EU90D0 | VOYGAR Cat6, UTP keystone Jack, 90 degree, Punch down, White. |
| K6EU91D1 | VOYGAR Cat6, UTP keystone Jack with Dust cover, 90 degree, Punch down, White. |
| K6EU90D0 | VOYGAR Cat6, UTP keystone Jack, 90 degree, Punch down, Black. |
| K6EU91D0 | VOYGAR Cat6, UTP keystone Jack with Dust cover, 90 degree, Punch down, Black. |

# UTP CAT6 Patch Cord

VOYGAR Category 6 Unscreened U/UTP Patch leads are designed and manufactured to meet and exceed the ISO, CENELEC and TIA standards. This delivers Class FA link and channel performance supporting all applications detailed and proposed within the standards.



## Features & Benefits

250 MHz with over 2.5Gbps
25 Years Warranty
Unshielded
LSZH, PVC jackets
Available in different colors and lengths
Durable for 750 insertion cycles

## General Specifications

| | |
|---|---|
| Conductor | Stranded AWG 26 |
| Insulations | PE Polyethylene |
| Overall diameter | 5.8 mm ± 0.30 mm |
| Bending radius | 15x OD |
| RJ45 connector | 3 µ nominal gold flash over 60 µ nickel undercoat contact pins |
| Wiring standard | EIA/TIA 586B |
| Contact resistance | 20 mΩ |
| Dielectric strength | 2500 VDC for 3 seconds |
| Insulation resistance | 500 mΩ |
| Voltage | 150v |
| Flame retardance | IEC 60332-1, IEC 61034 |
| Typical applications | IEEE 802.3: 10BASE-T; 100BASE-T; 1000BASE-T |
| Norms | ISO/IEC 11801-1; EN-50173; ANSI/TIA 568-C; EN 60603-7-5 |

## Ordering Information

| P.N | Description |
|---|---|
| P6E4UP11 | VOYGAR Cat6, UTP, Patch Cord, 1m, PVC, White |
| P6E4UP19 | VOYGAR Cat6, UTP, Patch Cord, 1m, PVC, Blue |
| P6E4UP17 | VOYGAR Cat6, UTP, Patch Cord, 1m, PVC, Orange |
| P6E4UP14 | VOYGAR Cat6, UTP, Patch Cord, 1m, PVC, Grey |
| P6E4UP18 | VOYGAR Cat6, UTP, Patch Cord, 1m, PVC, Red |
| P6E4UP31 | VOYAGR Cat6, UTP, Patch Cord, 3m, PVC, White |
| P6E4UP39 | VOYGAR Cat6, UTP, Patch Cord, 3m, PVC, Blue |
| P6E4UP37 | VOYGAR Cat6, UTP, Patch Cord, 3m, PVC, Orange |
| P6E4UP34 | VOYGAR Cat6, UTP, Patch Cord, 3m, PVC, grey |
| P6E4UP38 | VOYGAR Cat6, UTP, Patch Cord, 3m, PVC, Red |
| P6E4UP51 | VOYGAR Cat6, UTP, Patch Cord, 5m, PVC, White |
| P6E4UP59 | VOYGAR Cat6, UTP, Patch Cord, 5m, PVC, Blue |
| P6E4UP57 | VOYGAR Cat6, UTP, Patch Cord, 5m, PVC, Orange |
| P6E4UP54 | VOYGAR Cat6, UTP, Patch Cord, 5m, PVC, grey |
| P6E4UP58 | VOYGAR Cat6, UTP, Patch Cord, 5m, PVC, Red |
| P6E4UP01 | VOYGAR Cat6, UTP, Patch Cord, 10m, PVC, White |
| P6E4UP09 | VOYGAR Cat6, UTP, Patch Cord, 10m, PVC, Blue |
| P6E4UP07 | VOYGAR Cat6, UTP, Patch Cord, 10m, PVC, Orange |
| P6E4UP04 | VOYGAR Cat6, UTP, Patch Cord, 10m, PVC, Grey |
| P6E4UP08 | VOYGAR Cat6, UTP, Patch Cord, 10m, PVC, Red |

| P.N | Description |
|---|---|
| P6E4UL11 | VOYGAR Cat6, UTP, Patch Cord, 1m, LSZH, White |
| P6E4UL19 | VOYGAR Cat6, UTP, Patch Cord, 1m, LSZH, Blue |
| P6E4UL17 | VOYGAR Cat6, UTP, Patch Cord, 1m, LSZH, Orange |
| P6E4UL14 | VOYGAR Cat6, UTP, Patch Cord, 1m, LSZH, grey |
| P6E4UL18 | VOYGAR Cat6, UTP, Patch Cord, 1m, LSZH, Red |
| P6E4UL31 | VOYGAR Cat6, UTP, Patch Cord, 3m, LSZH, White |
| P6E4UL39 | VOYGAR Cat6, UTP, Patch Cord, 3m, LSZH, Blue |
| P6E4UL37 | VOYGAR Cat6, UTP, Patch Cord, 3m, LSZH, Orange |
| P6E4UL34 | VOYGAR Cat6, UTP, Patch Cord, 3m, LSZH, Gray |
| P6E4UL38 | VOYGAR Cat6, UTP, Patch Cord, 3m, LSZH, Red |
| P6E4UL51 | VOYGAR Cat6, UTP, Patch Cord, 5m, LSZH, White |
| P6E4UL59 | VOYGAR Cat6, UTP, Patch Cord, 5m, LSZH, Blue |
| P6E4UL57 | VOYGAR Cat6, UTP, Patch Cord, 5m, LSZH, Orange |
| P6E4UL54 | VOYGAR Cat6, UTP, Patch Cord, 5m, LSZH, Gray |
| P6E4UL58 | VOYGAR Cat6, UTP, Patch Cord, 5m, LSZH, Red |
| P6E4UL01 | VOYGAR Cat6, UTP, Patch Cord, 10m, LSZH, White |
| P6E4UL09 | VOYGAR Cat6, UTP, Patch Cord, 10m, LSZH, Blue |
| P6E4UL07 | VOYGAR Cat6, UTP, Patch Cord, 10m, LSZH, Orange |
| P6E4UL04 | VOYGAR Cat6, UTP, Patch Cord, 10m, LSZH, Gray |
| P6E4UL08 | VOYGAR Cat6, UTP, Patch Cord, 10m, LSZH, Red |

# UTP CAT6 Modular Patch Panel



VOYGAR modular unloaded panel with rear cable management. 24 port 1U with labelling field. Double skin powder coated steel design allows snap in RJ45 connectors to fit flush to the front panel for a professional appearance.

## Features & Benefits

Quick and easy to install
Suitable for all standard Keystone applications
Integrated cable tie position
Cat6 hardware performance
T568A and T568B colour coded wiring terminals
Integral, removable cable management
Data, Voice, video and other applications
Clear numbering on the front of each RJ45 port
Earth bonding point and 400mm earth wire provided

## Panel Specifications

| | |
|---|---|
| Support Bar Material | SPCC |
| Support Bar thickness | 1.5mm |
| Rear Panel Material | SPCC |
| Frame | PC, UL 94V-2. |
| Rear Panel Thickness | 1.5mm |
| Panel Back | ABS94 V-0 |
| Frame | ABS94 V-0 |
| Rack Type | EIA 19 inch |
| Total Ports Quantity | 24 |

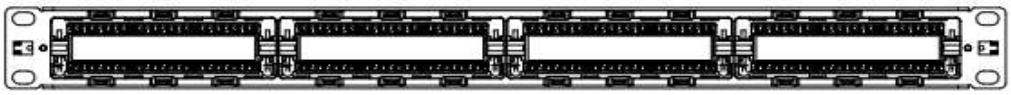
## Jack Specifications

| | |
|---|---|
| Interface Type | RJ45 |
| Shield Type | UTP |
| Category acceptance | CAT6 |
| Termination type | Tool-less/ Punch down |
| IDC Labels Colour coded to | T568A and T568B |
| IDC Blocks | IDC |
| Retention | 50N |
| Current rating | 1.5 AMP |
| Contact resistance | 20 mΩ Max. |
| Insulation resistance | 500MΩ Min. |
| Dielectric strength | 750V AC RMS 60Hz 1MIN |
| Housing material | High Impact flame retardant UL94V-0 rated |
| Insert material | PC+20%GF UL94V-0 |
| PCB material | FR4, 1.6mm Thickness |
| Contact material | 50 min Gold plated over 70-100min nickel Phosphor bronze |
| IDC contact material | Phosphor bronze Alloy Plated with 100 micro-inch of tin |
| Life (plug in /out) | ≥750 times |
| IDC life | ≥250 times |

## Ordering Information

| P.N | Description |
|---|---|
| PS6E1U4T | 1U, CAT6, UTP, Modular Patch Panel 24 Port, Loaded with keystone jacks tool less 180 degree |
| PS6E1U4D | 1U, CAT6, UTP, Modular Patch Panel 24 Port, Loaded with keystone jacks Punch down 180 degree |

# UTP CAT6 Loaded Patch Panel



VOYGAR module type loaded panel with rear cable management. 24 port 1U with labelling field. Double skin powder coated steel IDC compatible with 110&Krone tool

## Features & Benefits

Compatible with both 110 and Krone punch down tools
T568A and T568B dual wiring options
Compliance with the ANSI/TIA/EIA 568 B.2 standard

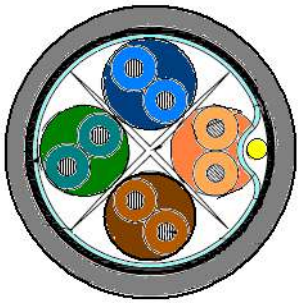
## Panel Specifications

| | |
|---|---|
| Cover | SPCC, 1.5mm |
| Base | PC 94V0 |
| Housing | High Impact UL 94V0 rated |
| PCB | FR4, 1.6mm thickness |
| Spring wire | Phosphor Bronze alloy Plated with 50 micro inch of gold Over 70-100micro inch of nickel |
| IDC | Phosphor Bronze alloy Plated with 50 micro inch of gold Over 100 micro inch of tin |
| Support Bar material | SPCC |
| Support Bar thickness | 1.5mm with black colour painted |
| Rear Panel Material | SPCC |
| Rear Panel Thickness | 1.5mm |
| Rack Type | EIA 19 inch |
| Rack Units | 1 |
| Total Ports Quantity | 24 |
| Interface Type | RJ45 |
| Shield Type | UTP |
| Category acceptance | CAT6 |
| Insulation Resistance | 500MΩ |
| Dielectric strength | 1000VAC |
| Current rating | 1.5 AMP |
| Contact resistance | 20 mΩ Max |
| Life (plug in /out) | ≥750 times |
| Wire AWG | 22 ~ 24 |

## Ordering Information

| P.N | Description |
|---|---|
| PF6E14SD | VOYGAR 1U, CAT6, UTP Laoded Patch Panel 24 Port Termination Contact Plating Nickel Termination Type IDC |

# F/UTP CAT6 cable



VOYGAR Solid bare copper conductors insulated with thermoplastics polyolefin. Two insulated conductors twisted together to form a pair and four such pairs cabled to form the basic unit. A cross filler is cabled in between to separate the 4 pairs insulated conductors. Aluminium Polyester Tape overall the 4 pairs. Overall jacket with PVC or LSZH compound.

## Reference Standards

International: IEC 61156-5 edit 2.0
North American: TIA-568-C.2 Cat.6

## Specifications

| | | |
|---|---|---|
| **Conductor** | Size | 23AWG |
| | Type | Solid bare copper |
| | Diameter (mm) | 0.55± 0.01 |
| **Insulation** | Type | PE |
| | Diameter (mm) | 1.08 ± 0.05 |
| | Min. thickness (mm) | 0.186 |
| **Central Element** | Type | PE cross separator |
| | Tinned copper drain wire(mm) | Polyester tape |
| **Shield** | Type Overall | 0.495 ± 0.008 |
| | Type | Aluminum polyester tape |
| **Jacket** | **Type** | Aluminum polyester tape |

## Physical Specifications

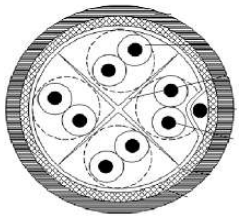
| | | |
|---|---|---|
| **Cold bend test** | -20 ± 2℃ X 4hrs no. crack | |
| **Dielectric strength** | AC 1.7 KV for 2S. | |
| **Insulation** | **Before Aging** | **After aging** |
| **Min. Tension strength (psi)** | 2400 | 75% before aging (100℃ X 48hrs) |
| **Min elongation (%)** | 300 | 75% before aging (100℃ X 48hrs) |
| **Jacket** | | |
| **Min. Tension strength (psi)** | 2000 | 75% before aging (100℃ X 168hrs) |
| **Min elongation (%)** | 100 | 50% before aging (100℃ X 168hrs) |
| **Min. bending radius (mm)** | 50 | |
| **Max. pulling tension (lbs)** | 25 | |
| **Installation temperature** | -10℃ to +60℃ | |
| **Operating temperature** | -10℃ to +60℃ | |

## Transmission Performance

**IEC 61156-5 ed2.0 Category 6 horizontal cable parameters**

| Freq. (MHz) | Ins. Loss (dB/100 m) | RL (dB) | Pair to Pair | | Power Sum | | Po. Delay (ns/100) |
|---|---|---|---|---|---|---|---|
| | | | NEXT | ELFEXT | NEXT | ELFEXT | |
| | | | (dB/100m) | | (dB/100m) | | |
| | Max. | Min. | Min. | Min. | Min. | Min. | Max. |
| 1 | -- | 20 | -- | -- | -- | -- | -- |
| 4 | 3.8 | 23 | 66.3 | 56.0 | 63.3 | 53.0 | 552.0 |
| 10 | 6.0 | 25 | 60.3 | 48.0 | 57.3 | 45.0 | 545.4 |
| 16 | 7.6 | 25 | 57.2 | 43.9 | 54.2 | 40.9 | 543.0 |
| 20 | 8.5 | 25 | 55.8 | 42.0 | 52.8 | 39.0 | 542.0 |
| 31.25 | 10.7 | 23.6 | 52.9 | 38.1 | 49.9 | 35.1 | 540.4 |
| 62.5 | 15.5 | 21.5 | 48.4 | 32.1 | 45.4 | 29.1 | 538.6 |
| 100 | 19.9 | 20.1 | 45.3 | 28.0 | 42.3 | 25.0 | 537.6 |
| 200 | 29.1 | 18 | 40.8 | 22.0 | 37.8 | 19.0 | 536.5 |
| 250 | 33.0 | 17.3 | 39.3 | 20.0 | 36.3 | 17.0 | 536.3 |

# S/FTP CAT6 cable



VOYGAR Solid bare copper conductors insulated with thermoplastics polyolefin. Two insulated conductors twisted together to form a pair and four such pairs cabled to form the basic unit. A cross filler is cabled in between to separate the 4 pairs insulated conductors. Aluminium polyester tape and tinned copper braiding overall the 4 pairs. Overall jacket with PVC or LSZH compound.

## Reference Standards

International: IEC 61156-5 edit 2.0
North American: TIA-568-C.2 Cat.6

## Specifications

| | | |
|---|---|---|
| **Conductor** | Size | 23AWG |
| | Type | Solid bare copper |
| | Diameter (mm) | 0.55± 0.01 |
| **Insulation** | Type | PE |
| | Diameter (mm) | 1.16 ± 0.05 |
| | Min. thickness (mm) | 0.30 |
| **Central Element** | Type | PE cross separator |
| | Tinned copper drain wire (mm) | 0.495 ± 0.008 |
| **Shield** | Type (Overall braiding) | Tinned Copper 40% Braiding |
| | Type (Overall shielded) | Polyester Tape |
| **Jacket** | Type | LSZH |
| | Overall Diameter (mm) | 7.29 ± 0.3 |

## Physical Specifications

| | | |
|---|---|---|
| **Cold bend test** | -20 ± 2℃ X 4hrs no. crack | |
| **Dielectric strength** | AC 1.7 KV for 2S. | |
| **Insulation** | **Before Aging** | **After aging** |
| **Min. Tension strength (psi)** | 2400 | 75% before aging (100℃ X 48hrs) |
| **Min elongation (%)** | 300 | 75% before aging (100℃ X 48hrs) |
| **Jacket** | | |
| **Min. Tension strength (psi)** | 1300 | 60% before aging (100℃ X 168hrs) |
| **Min elongation (%)** | 100 | 60% before aging (100℃ X 168hrs) |
| **Min. bending radius (mm)** | 60 | |
| **Max. pulling tension (lbs)** | 25 | |
| **Installation temperature** | -10℃ to +60℃ | |
| **Operating temperature** | -10℃ to +60℃ | |

## Transmission Performance

**IEC 61156-5 ed2.0 Category 6 horizontal cable parameters**

| Freq. (MHz) | Ins. Loss (dB/100 m) | RL (dB) | Pair to Pair (dB/100m) | | Power Sum (dB/100m) | | Po. Delay (ns/100) |
|---|---|---|---|---|---|---|---|
| | | | NEXT | ELFEXT | NEXT | ELFEXT | |
| | Max. | Min. | Min. | Min. | Min. | Min. | Max. |
| 1 | -- | 20 | -- | -- | -- | -- | -- |
| 4 | 3.8 | 23 | 66.3 | 56.0 | 63.3 | 53.0 | 552.0 |
| 10 | 6.0 | 25 | 60.3 | 48.0 | 57.3 | 45.0 | 545.4 |
| 16 | 7.6 | 25 | 57.2 | 43.9 | 54.2 | 40.9 | 543.0 |
| 20 | 8.5 | 25 | 55.8 | 42.0 | 52.8 | 39.0 | 542.0 |
| 31.25 | 10.7 | 23.6 | 52.9 | 38.1 | 49.9 | 35.1 | 540.4 |
| 62.5 | 15.5 | 21.5 | 48.4 | 32.1 | 45.4 | 29.1 | 538.6 |
| 100 | 19.9 | 20.1 | 45.3 | 28.0 | 42.3 | 25.0 | 537.6 |
| 200 | 29.1 | 18 | 40.8 | 22.0 | 37.8 | 19.0 | 536.5 |
| 250 | 33.0 | 17.3 | 39.3 | 20.0 | 36.3 | 17.0 | 536.3 |

## Electrical Specifications

| | | | |
|---|---|---|---|
| **Conductor resistance (Ω/100m @ 20℃)** | Max | 9.5 | |
| **DC resistance unbalance (%)** | Max | 4 | |
| **Pair-to-ground capacitance unbalance (pF/km)** | Max | 1600 | |
| **Delay skew (ns/100m)** | Max | 45 | 4 ≦ f ≦ 250MHz |
| **Insertion Loss (dB/100m)** | Max | 1.82*√f + 0.0169* f +0.25/√f | 4 ≦ f ≦ 250MHz |
| **Pair to Pair NEXT (dB/100m)** | Min. | 75.3 - 15 * log(f) | 4 ≦ f ≦ 250MHz |
| **PowerSum pr-pr NEXT (dB/100m)** | Min. | 72.3 - 15 * log(f) | 4 ≦ f ≦ 250MHz |
| **ELFEXT (dB/100m)** | Min. | 68 - 20 * log(f) | 4 ≦ f ≦ 250MHz |
| **PowerSum ELFEXT (dB/100m)** | Min. | 65 – 20 * log(f) | 4 ≦ f ≦ 250MHz |
| **Return Loss (dB)** | Min. | 20 + 5 * log(f) | 1 ≦ f < 10MHz |
| | | 25 | 10 ≦ f < 20MHz |
| | | 25 - 7 * log(f / 20) | 20 ≦ f ≦250MHz |
| **Propagation Delay (ns/100m)** | Max | 534 + 36 /√f | 4 ≦ f ≦ 250MHz |
| **Input Impedance (Ω)** | | 100 ± 15% | 1 ≦ f ≦ 100MHz |
| | | 100 ± 22% | 100 < f ≦ 250MHz |

## Transmission Performance

**IEC 61156-5 ed2.0 Category 6 horizontal cable parameters**

| Freq. (MHz) | Ins. Loss (dB/100 m) | RL (dB) | Pair to Pair (dB/100m) | | Power Sum (dB/100m) | | Po. Delay (ns/100) |
|---|---|---|---|---|---|---|---|
| | | | NEXT | ELFEXT | NEXT | ELFEXT | |
| | Max. | Min. | Min. | Min. | Min. | Min. | Max. |
| 1 | -- | 20 | -- | -- | -- | -- | -- |
| 4 | 3.8 | 23 | 66.3 | 56.0 | 63.3 | 53.0 | 552.0 |
| 10 | 6.0 | 25 | 60.3 | 48.0 | 57.3 | 45.0 | 545.4 |
| 16 | 7.6 | 25 | 57.2 | 43.9 | 54.2 | 40.9 | 543.0 |
| 20 | 8.5 | 25 | 55.8 | 42.0 | 52.8 | 39.0 | 542.0 |
| 31.25 | 10.7 | 23.6 | 52.9 | 38.1 | 49.9 | 35.1 | 540.4 |
| 62.5 | 15.5 | 21.5 | 48.4 | 32.1 | 45.4 | 29.1 | 538.6 |
| 100 | 19.9 | 20.1 | 45.3 | 28.0 | 42.3 | 25.0 | 537.6 |
| 200 | 29.1 | 18 | 40.8 | 22.0 | 37.8 | 19.0 | 536.5 |
| 250 | 33.0 | 17.3 | 39.3 | 20.0 | 36.3 | 17.0 | 536.3 |

## Ordering Information

| P.N | Description |
|---|---|
| C6E3TP37 | VOYGAR CAT6 F/UTP 23AWG, PVC CABLE 305M, Orange |
| C6E3TL37 | VOYGAR CAT6 F/UTP 23AWG, LSZH CABLE 305M, Orange |
| C6E3TP34 | VOYGAR CAT6 F/UTP 23AWG, PVC CABLE 305M, Grey |
| C6E3TL34 | VOYGAR CAT6 F/UTP 23AWG, LSZH CABLE 305M, Grey |
| C6E3TP39 | VOYGAR CAT6 F/UTP 23AWG, PVC CABLE 305M, Blue |
| C6E3TL39 | VOYGAR CAT6 F/UTP 23AWG, LSZH CABLE 305M, Blue |
| C6E3TP38 | VOYGAR CAT6 F/UTP 23AWG, PVC CABLE 305M, Red |
| C6E3SP37 | VOYGAR CAT6 S/FTP 23AWG, PVC CABLE 305M, Orange |
| C6E3SL37 | VOYGAR CAT6 S/FTP 23AWG, LSZH CABLE 305M, Orange |
| C6E3SP34 | VOYGAR CAT6 S/FTP 23AWG, PVC CABLE 305M, Grey |
| C6E3SL34 | VOYGAR CAT6 S/FTP 23AWG, LSZH CABLE 305M, Grey |
| C6E3SP39 | VOYGAR CAT6 S/FTP 23AWG, PVC CABLE 305M, Blue |
| C6E3SL39 | VOYGAR CAT6 S/FTP 23AWG, LSZH CABLE 305M, Blue |
| C6E3SP38 | VOYGAR CAT6 S/FTP 23AWG, PVC CABLE 305M, Red |
| C6E3SL38 | VOYGAR CAT6 S/FTP 23AWG, LSZH CABLE 305M, Red |

# FTP CAT6 Keystone Jack

Category 6 STP Keystone jack modules are designed and manufactured to meet and exceed the ISO, CENELEC and TIA standards available in a choice of 90°, 180° shuttered and non-shuttered. This delivers Class FA link and channel performance supporting all applications detailed and proposed within the standards. This superior performance cable is ETL Component Verified.



## Features & Benefits

Quick and easy to install
Snap-fit to terminate
Suitable for all standard keystone applications
Integrated cable tie position
T568A and T568B color coded wiring terminals
Meets or exceeds TIA /EIA 568 B .2, ISO/IEC11801
Phosphor bronze with 50um gold plated
Easy wiring fit for 110 punch-down tools
Termination solid wire 22 ~ 26AWG

## General Specifications

| | |
|---|---|
| Category | Cat.6 |
| Shielding | Shielded |
| Retention | 50N |
| Current rating | 1.5 AMP |
| Contact resistance | 20 mΩ Max. |
| IDC Contact resistance | 2.5 mΩ Max. |
| Insulation resistance | 500MΩ Min. @ 100VDC |
| Dielectric strength | 1000V AC RMS 60Hz 1MIN |
| Housing material | Zinc Alloy |
| Insert material | PC+20%GF UL94V-0 |
| PCB material | FR4, 1.6mm Thickness |
| Contact material | 50 min Gold plated<br>Over 70-100min nickel Phosphor bronze |
| Wire AWG | 22 ~ 24 |
| Jack insertion life | >750 mating cycles |
| IDC insertion life | >250 mating cycles |
| Operating Temperature Range | -10 to +60°C |
| Storage Temperature Range | -40 to +70°C |
| Flame retardance | UL 94 V-0 |
| Product certifications | ETL verified |

## Applications

Ethernet 10 BaseT
Fast Ethernet 100 BaseTX
Gigabit Ethernet 1000 BaseT
Gigabit Ethernet 1000 BaseTX
Token Ring 4/16 Mbit/s
ATM 155 Mbit/s
VoIP (Voice over IP)
PoE (Power over Ethernet)
ROHS Complaint

## Standards

UL/ DELTA EC
ANSI/TIA-568.C.2:2009
ISO/IEC 11801:2011 (Ed 2.2) Class E
CENELEC EN 50173-1:2011
ANSI/TIA-1096-A (formerly FCC Part 68)

## Ordering Information

| P.N | Description |
|---|---|
| K6ES80TS | VOYGAR CAT6, STP 180 degree tool less keystone jack |
| K6ES80DS | VOYGAR CAT6, STP 180 degree punch down keystone jack, |

# FTP CAT6 Patch Cord



VOYGAR Category 6 Unscreened U/UTP Patch leads are designed and manufactured to meet and exceed the ISO, CENELEC and TIA standards. This delivers Class FA link and channel performance supporting all applications detailed and proposed within the standards

## Features & Benefits

250 MHz with over 2.5Gbps
25 Years Warranty
Shielded
LSZH jacket
Available in different colors and lengths
Durable for 750 insertion cycles

## General Specifications

| | |
|---|---|
| Conductor | Stranded AWG 26 |
| Insulations | PE Polyethylene |
| Overall diameter | 5.8 mm ± 0.30 mm |
| Bending radius | 15x OD |
| RJ45 connector | 3 µ nominal gold flash over 60 µ nickel undercoat contact pins |
| Wiring standard | EIA/TIA 586B |
| Contact resistance | 20 mΩ |
| Dielectric strength | 2500 VDC for 3 seconds |
| Insulation resistance | 500 mΩ |
| Voltage | 150v |
| Flame retardance | IEC 60332-1, IEC 61034 |
| Typical applications | IEEE 802.3: 10BASE-T; 100BASE-T; 1000BASE-T |
| Norms | ISO/IEC 11801-1; EN-50173; ANSI/TIA 568-C; EN 60603-7-5 |

## Ordering Information

| P.N | Description |
|---|---|
| P6E4FL11 | VOYGAR Cat6, FTP, Patch Cord, 1m, LSZH, White |
| P6E4FL19 | VOYGAR Cat6, FTP, Patch Cord, 1m, LSZH, Blue |
| P6E4FL17 | VOYGAR Cat6, FTP, Patch Cord, 1m, LSZH, Orange |
| P6E4FL14 | VOYGAR Cat6, FTP, Patch Cord, 1m, LSZH, grey |
| P6E4FL18 | VOYGAR Cat6, FTP, Patch Cord, 1m, LSZH, Red |
| P6E4FL31 | VOYGAR Cat6, FTP, Patch Cord, 3m, LSZH, White |
| P6E4FL39 | VOYGAR Cat6, FTP, Patch Cord, 3m, LSZH, Blue |
| P6E4FL37 | VOYGAR Cat6, FTP, Patch Cord, 3m, LSZH, Orange |
| P6E4FL34 | VOYGAR Cat6, FTP, Patch Cord, 3m, LSZH, grey |
| P6E4FL38 | VOYGAR Cat6, FTP, Patch Cord, 3m, LSZH, Red |
| P6E4FL51 | VOYGAR Cat6, FTP, Patch Cord, 5m, LSZH, White |
| P6E4FL59 | VOYGAR Cat6, FTP, Patch Cord, 5m, LSZH, Blue |
| P6E4FL57 | VOYGAR Cat6, FTP, Patch Cord, 5m, LSZH, Orange |
| P6E4FL54 | VOYGAR Cat6, FTP, Patch Cord, 5m, LSZH, grey |
| P6E4FL58 | VOYGAR Cat6, FTP, Patch Cord, 5m, LSZH, Red |

# STP CAT6 Modular Patch Panel



VOYGAR modular unloaded panel with rear cable management. 24 port 1U with labelling field. Double skin powder coated steel design allows snap in RJ45 connectors to fit flush to the front panel for a professional appearance.

## Features & Benefits

Quick and easy to install
Suitable for all standard Keystone applications
Integrated cable tie position
Cat6 hardware performance
T568A and T568B colour coded wiring terminals
Integral, removable cable management
Data, Voice, video and other applications
Clear numbering on the front of each RJ45 port
Earth bonding point and 400mm earth wire provided

## Panel Specifications

| | |
|---|---|
| Support Bar Material | SPCC |
| Support Bar thickness | 1.5mm |
| Rear Panel Material | SPCC |
| Frame | PC, UL 94V-2. |
| Rear Panel Thickness | 1.5mm |
| Ground Wire | 18 AWG Wire, with Green/ Yellow striped colour |
| Panel Back | 5-8µ Nickel Plating |
| Frame | 5-8µ Nickel Plating |
| Rack Type | EIA 19 inch |
| Total Ports Quantity | 24 |

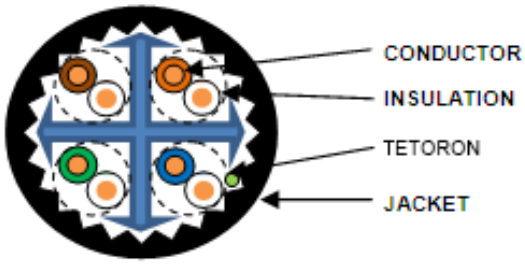
## Jack Specifications

| | |
|---|---|
| Interface Type | RJ45 |
| Shield Type | STP |
| Category acceptance | CAT6 |
| Termination type | Tool-less |
| IDC Labels Colour coded to | T568A and T568B |
| IDC Blocks | IDC |
| Retention | 50N |
| Current rating | 1.5 AMP |
| Contact resistance | 20 mΩ Max. |
| Insulation resistance | 500MΩ Min. |
| Dielectric strength | 750V AC RMS 60Hz 1MIN |
| Housing material | Zinc Alloy |
| Insert material | PC+20%GF UL94V-0 |
| PCB material | FR4, 1.6mm Thickness |
| Contact material | 50 min Gold plated over70-100min nickel Phosphor bronze |
| IDC contact material | Phosphor bronze Alloy Plated with 100 micro-inch of tin |
| Life (plug in /out) | ≥750 times |
| IDC life | ≥250 times |

## Ordering Information

| P.N | Description |
|---|---|
| PS6E1S4T | 1U, CAT6, STP, Modular Patch Panel 24 Port with keystone jacks tool less 180 degree |
| PS6E1S4D | 1U, CAT6, STP, Modular Patch Panel 24 Port with keystone jacks punch down 180 degree |

# U/UTP CAT6A cable




For horizontal network and voice application in a structured cabling system, including IEEE 802.3an: 10G Base-T Gigabit Ethernet, 2.4/1.2Gb/s ATM, digital video, broadband & baseband analog video.

VOYGAR Solid bare copper conductors insulated with thermoplastics polyolefin. Two insulated conductors twisted together. Four such pairs separated by cross filler. Outer Jacket with LSZH compound.

## Features

500MHz with over 2.5Gbps
25 Years Warranty
Unshielded
LSZH, PVC jackets
Available in different colors and lengths
Durable for 750 insertion cycles

## Reference Standards

International: IEC 61156-5 edit 2.0
North American: TIA-568-C.2 Cat.6

## Certificates

Delta EC, ETL

## Specifications

| | | |
|---|---|---|
| **Conductor** | Size | 23AWG |
| | Type | Solid bare copper |
| | Diameter (mm) | 0.56± 0.01 |
| **Insulation** | Type | PE |
| | Diameter (mm) | 1.03 ± 0.05 |
| | Min. thickness (mm) | 0.21 |
| **Central Element** | Type | PE cross separator |
| **Jacket** | Type | LSZH |
| | Overall Diameter (mm) | 8.3 ± 0.3 |

## Physical Specifications

| | | |
|---|---|---|
| **Cold bend test** | -20 ± 2℃ X 4hrs no. crack | |
| **Dielectric strength** | AC 1.7 KV for 2 s | |
| **Insulation** | **Before Aging** | **After aging** |
| **Min. Tension strength (psi)** | 2400 | 75% before aging (100℃ X 48hrs) |
| **Min elongation (%)** | 300 | 75% before aging (100℃ X 48hrs) |
| **Jacket** | | |
| **Min. Tension strength (psi)** | 1300 | 60% before aging (100℃ X 168hrs) |
| **Min elongation (%)** | 100 | 60% before aging (100℃ X 168hrs) |
| **Min. bending radius (mm)** | 65 | |
| **Max. pulling tension (lbs)** | 25 | |
| **Installation temperature** | -10℃ to +60℃ | |
| **Operating temperature** | -10℃ to +60℃ | |

## Transmission Performance

**IEC 61156-5 ed.2.0 Category 6A horizontal cable parameters**

| Freq. (MHz) | Ins. Loss | RL | Pair to Pair | | Power Sum | | Delay Skew | Po. Delay |
|---|---|---|---|---|---|---|---|---|
| | | | NEXT | ELFEXT | NEXT | ELFEXT | | |
| | (dB/100m) | (dB) | (dB/100m) | | (dB/100m) | | (ns/100m) | (ns/100) |
| | Max. | Min. | Min. | Min. | Min. | Min. | Max | Max. |
| 1 | - | 20.0 | - | - | 72.3 | - | -- | 570.0 |
| 4 | 3.8 | 23.0 | 66.3 | 56.0 | 63.3 | 53.0 | 45 | 552.0 |
| 10 | 5.9 | 25.0 | 60.3 | 48.0 | 57.3 | 45.0 | 45 | 545.4 |
| 16 | 7.5 | 25.0 | 57.2 | 43.9 | 54.2 | 40.9 | 45 | 543.0 |
| 20 | 8.4 | 25.0 | 55.8 | 42.0 | 52.8 | 39.0 | 45 | 542.0 |
| 31.25 | 10.5 | 23.6 | 52.9 | 38.1 | 49.9 | 35.1 | 45 | 540.4 |
| 62.5 | 15 | 21.5 | 48.4 | 32.1 | 45.4 | 29.1 | 45 | 538.6 |
| 100 | 19.1 | 20.1 | 45.3 | 28.0 | 42.3 | 25.0 | 45 | 537.6 |
| 200 | 27.6 | 18.0 | 40.8 | 22.0 | 37.8 | 19.0 | 45 | 536.5 |
| 250 | 31.1 | 17.3 | 39.3 | 20.0 | 36.3 | 17.0 | 45 | 536.3 |
| 300 | 34.3 | 17.3 | 38.1 | 18.5 | 35.1 | 15.5 | 45 | 536.1 |
| 400 | 40.1 | 17.3 | 36.3 | 16.0 | 33.3 | 13.0 | 45 | 535.8 |
| 500 | 45.3 | 17.3 | 34.8 | 14.0 | 31.8 | 11.0 | 45 | 535.6 |

## Ordering Information

| P.N | Description |
|---|---|
| C6A3UP31 | VOYGAR CAT6A U/UTP 23AWG, PVC CABLE 305M, White |
| C6A3UP39 | VOYGAR CAT6A U/UTP 23AWG, PVC CABLE 305M, Blue |
| C6A3UP37 | VOYGAR CAT6A U/UTP 23AWG, PVC CABLE 305M, Orange |
| C6A3UP34 | VOYGAR CAT6A U/UTP 23AWG, PVC CABLE 305M, Grey |
| C6A3UP38 | VOYGAR CAT6A U/UTP 23AWG, PVC CABLE 305M, Red |
| C6A3UL31 | VOYGAR CAT6A U/UTP 23AWG, LSZH CABLE 305M, White |
| C6A3UL39 | VOYGAR CAT6A U/UTP 23AWG, LSZH CABLE 305M, Blue |
| C6A3UL37 | VOYGAR CAT6A U/UTP 23AWG, LSZH CABLE 305M, Orange |
| C6A3UL34 | VOYGAR CAT6A U/UTP 23AWG, LSZH CABLE 305M, Grey |
| C6A3UL38 | VOYGAR CAT6A U/UTP 23AWG, LSZH CABLE 305M, Red |
| C6A3UP51 | VOYGAR CAT6A U/UTP 23AWG, PVC CABLE 500M, White |
| C6A3UP59 | VOYGAR CAT6A U/UTP 23AWG, PVC CABLE 500M, Blue |
| C6A3UP57 | VOYGAR CAT6A U/UTP 23AWG, PVC CABLE 500M, Orange |
| C6A3UP54 | VOYGAR CAT6A U/UTP 23AWG, PVC CABLE 500M, Grey |
| C6A3UP58 | VOYGAR CAT6A U/UTP 23AWG, PVC CABLE 500M, Red |
| C6A3UL51 | VOYGAR CAT6A U/UTP 23AWG, LSZH CABLE 500M, White |
| C6A3UL59 | VOYGAR CAT6A U/UTP 23AWG, LSZH CABLE 500M, Blue |
| C6A3UL57 | VOYGAR CAT6A U/UTP 23AWG, LSZH CABLE 500M, Orange |
| C6A3UL54 | VOYGAR CAT6A U/UTP 23AWG, LSZH CABLE 500M, Grey |
| C6A3UL58 | VOYGAR CAT6A U/UTP 23AWG, LSZH CABLE 500M, Red |

# UTP CAT6A Keystone Jack




## Features & Benefits

Quick and easy to install
Meets or exceeds TIA /EIA 568 B .2, ISO/IEC11801
Phosphor bronze with 50um gold plated
Easy wiring fit for 110 punch-down tools
Termination solid wire 22 ~ 26AWG

## General Specifications

| | |
|---|---|
| Design | RJ45 Keystone Jack |
| Category | Cat.6a |
| Shielding | Unshielded |
| IDC Labels Colour coded to | T568A and T568B |
| Retention | 50N |
| Current rating | 1.5 AMP |
| Contact resistance | 20 mΩ Max. |
| IDC Contact resistance | 2.5 mΩ Max. |
| Insulation resistance | 500MΩ Min. @ 100VDC |
| Dielectric strength | 1000V AC RMS 60Hz 1MIN |
| Housing material | High Impact flame retardant UL94V-0 Rated |
| Insert material | PC+20%GF UL94V-0 |
| PCB material | FR4, 1.6mm Thickness |
| Contact material | 50 min Gold plated over 70-100min nickel Phosphor bronze |
| Wire AWG | 22 ~ 24 |
| Jack insertion life | >750 mating cycles |
| IDC insertion life | >250 mating cycles |
| Storage Temperature Range | -40 to +70°C |

## Applications

Ethernet 10 BaseT
Fast Ethernet 100 BaseTX
Gigabit Ethernet 1000 BaseT
Gigabit Ethernet 1000 BaseTX
Token Ring 4/16 Mbit/s
ATM 155 Mbit/s
PoE (Power over Ethernet)

## Standards

UL / DELTA EC
ANSI/TIA-568.C.2:2009
ISO/IEC 11801:2011 (Ed 2.2) Class E
CENELEC EN 50173-1:2011
ANSI/TIA-1096-A (formerly FCC Part 68)
IEC 60603-7-4
ROHS Complaint/ ETL verified

## Ordering Information

| P.N | Description |
|---|---|
| K6AU81T1 | VOYGAR Cat6A, UTP 180 degree Tool less Keystone Jack with Dust cover, White. |
| K6AU80T0 | VOYGAR Cat6A, UTP 180 degree Tool less Keystone Jack, Black. |
| K6AU90D1 | VOYGAR Cat6A, UTP 90 degree Punch down Keystone Jack, White |
| K6AU90D0 | VOYGAR Cat6A, UTP 90 degree Punch down Keystone Jack, Black |
| K6AU80D0 | VOYGAR Cat6A, UTP 180 degree Punch down Keystone Jack, Black |
| KSAU80D1 | VOYGAR Cat6A, UTP 180 degree Punch down Keystone Jack, White |

# UTP CAT6A Patch Cord



The VOYGAR Cat 6A U/UTP Patch Leads offer Cat 6A compliant performance and support high speed protocols up to 10G Ethernet.
The plugs are fitted with a protected latch that prevents snagging when pulling cables out of wiring zones.

## Features & Benefits

Specified to 500MHz
Suitable for10GBASE-T, 10 Gigabit Ethernet Applications
Meets or exceeds Cat.6A requirements when full product system is used
50-micron gold plated RJ-45 male-to -male
PVC, Low Smoke Zero Halogen & Outer Sheath are available
Multiple Selection of Lengths and Colors
RoHS Compliant

## General Specifications

| | |
|---|---|
| Cable Type | U/UTP |
| Cord Length | 1m |
| Category | 6A |
| Interface, connector A | RJ45 plug |
| Interface, connector B | RJ45 plug |
| Pairs, quantity | 4 |
| Dc Resistance, maximum | 0.30 ohm |
| Voltage Rating | 300 V |
| Loop resistance | < 2 Ω |
| Contact resistance | < 20 mΩ |
| Total resistance of the cord | < 5 Ω |
| Resistance per 100 m of cable | < 14 Ω |
| Plug Retention Force, minimum | 133 N |
| DC dielectric strength | 1 KV/1 min |
| Characteristic impedance | 100 Ω ± 15 |
| Environmental Space | LSZH |
| Flammability Rating | UL 94 V-0 |
| Operating Temperature | -10°C to +60°C |
| Fire resistance: | IEC 60332-1, UL VW-1 |
| Conductor Type | Stranded |
| Conductor Material Type | 24 AWG Stranded Copper |
| Number of insertions | 750 times |
| Wiring | T568B |
| Cable diameter | 7.2mm |
| Diameter over insulation | 0.98mm |

## Standards

ISO/IEC 11801
EN 50173 Ed.1
ANSI/TIA-568-C.2
BS EN 50173

## Ordering Information

| P.N | Description |
|---|---|
| P6A4UP11 | VOYGAR Cat6A, UTP, Patch Cord, 1m, PVC, White |
| P6A4UP19 | VOYGAR Cat6A, UTP, Patch Cord, 1m, PVC, Blue |
| P6A4UP17 | VOYGAR Cat6A, UTP, Patch Cord, 1m, PVC, Orange |
| P6A4UP14 | VOYGAR Cat6A, UTP, Patch Cord, 1m, PVC, Gray |
| P6A4UP18 | VOYGAR Cat6A, UTP, Patch Cord, 1m, PVC, Red |
| P6A4UP31 | VOYGAR Cat6A, UTP, Patch Cord, 3m, PVC, White |
| P6A4UP39 | VOYGAR Cat6A, UTP, Patch Cord, 3m, PVC, Blue |
| P6A4UP37 | VOYGAR Cat6A, UTP, Patch Cord, 3m, PVC, Orange |
| P6A4UP34 | VOYGAR Cat6A, UTP, Patch Cord, 3m, PVC, Gray |
| P6A4UP38 | VOYGAR Cat6A, UTP, Patch Cord, 3m, PVC, Red |
| P6A4UP51 | VOYGAR Cat6A, UTP, Patch Cord, 5m, PVC, White |
| P6A4UP59 | VOYGAR Cat6A, UTP, Patch Cord, 5m, PVC, Blue |
| P6A4UP57 | VOYGAR Cat6A, UTP, Patch Cord, 5m, PVC, Orange |
| P6A4UP54 | VOYGAR Cat6A, UTP, Patch Cord, 5m, PVC, Gray |
| P6A4UP58 | VOYGAR Cat6A, UTP, Patch Cord, 5m, PVC, Red |
| P6A4UP01 | VOYGAR Cat6A, UTP, Patch Cord, 10m PVC, White |
| P6A4UP09 | VOYGAR Cat6A, UTP, Patch Cord, 10m, PVC, Blue |
| P6A4UP07 | VOYGAR Cat6A, UTP, Patch Cord, 10m, PVC, Orange |
| P6A4UP04 | VOYGAR Cat6A, UTP, Patch Cord, 10m, PVC, Gray |
| P6A4UP08 | VOYGAR Cat6A, UTP, Patch Cord, 10m, PVC, Red |
| P6A4UL11 | VOYGAR Cat6A, UTP, Patch Cord, 1m, LSZH, White |
| P6A4UL19 | VOYGAR Cat6A, UTP, Patch Cord, 1m, LSZH, Blue |
| P6A4UL17 | VOYGAR Cat6A, UTP, Patch Cord, 1m, LSZH, Orange |
| P6A4UL14 | VOYGAR Cat6A, UTP, Patch Cord, 1m, LSZH, Gray |
| P6A4UL18 | VOYGAR Cat6A, UTP, Patch Cord, 1m, LSZH, Red |
| P6A4UL31 | VOYGAR Cat6A, UTP, Patch Cord, 3m, LSZH, White |
| P6A4UL39 | VOYGAR Cat6A, UTP, Patch Cord, 3m, LSZH, Blue |
| P6A4UL37 | VOYGAR Cat6A, UTP, Patch Cord, 3m, LSZH, Orange |
| P6A4UL34 | VOYGAR Cat6A, UTP, Patch Cord, 3m, LSZH, Gray |
| P6A4UL38 | VOYGAR Cat6A, UTP, Patch Cord, 3m, LSZH, Red |
| P6A4UL51 | VOYGAR Cat6A, UTP, Patch Cord, 5m, LSZH, White |
| P6A4UL59 | VOYGAR Cat6A, UTP, Patch Cord, 5m, LSZH, Blue |
| P6A4UL57 | VOYGAR Cat6A, UTP, Patch Cord, 5m, LSZH, Orange |
| P6A4UL54 | VOYGAR Cat6A, UTP, Patch Cord, 5m, LSZH, Gray |
| P6A4UL58 | VOYGAR Cat6A, UTP, Patch Cord, 5m, LSZH, Red |
| P6A4UL01 | VOYGAR Cat6A, UTP, Patch Cord, 10m, LSZH, White |
| P6A4UL09 | VOYGAR Cat6A, UTP, Patch Cord, 10m, LSZH, Blue |
| P6A4UL07 | VOYGAR Cat6A, UTP, Patch Cord, 10m, LSZH, Orange |
| P6A4UL04 | VOYGAR Cat6A, UTP, Patch Cord, 10m, LSZH, Gray |
| P6A4UL08 | VOYGAR Cat6A, UTP, Patch Cord, 10m, LSZH, Red |

# UTP CAT6A Modular Patch Panel



VOYGAR modular unloaded panel with rear cable management. 24 port 1U with labelling field. Double skin powder coated steel design allows snap in RJ45 connectors to fit flush to the front panel for a professional appearance.

## Features & Benefits

Quick and easy to install
Suitable for all standard Keystone applications
Integrated cable tie position
Cat6 hardware performance
T568A and T568B colour coded wiring terminals
Integral, removable cable management
Data, Voice, video and other applications
Clear numbering on the front of each RJ45 port
Earth bonding point and 400mm earth wire provided

## Panel Specifications

| | |
|---|---|
| Support Bar Material | SPCC |
| Support Bar thickness | 1.5mm |
| Rear Panel Material | SPCC |
| Frame | PC, UL 94V-2. |
| Rear Panel Thickness | 1.5mm |
| Panel Back | ABS94 V-0 |
| Frame | ABS94 V-0 |
| Rack Type | EIA 19 inch |
| Total Ports Quantity | 24 |

## Jack Specifications

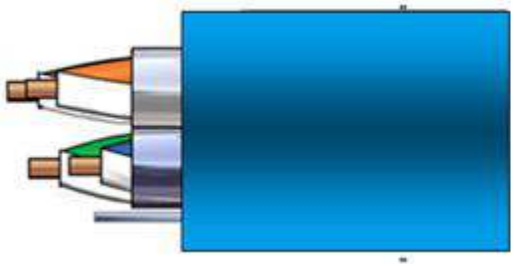


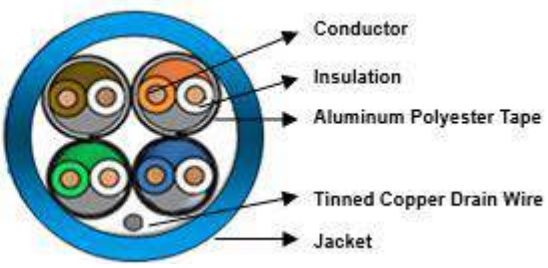
| | |
|---|---|
| Interface Type | RJ45 |
| Shield Type | UTP |
| Category acceptance | CAT6A |
| Termination type | Tool-less/ Punch down |
| IDC Labels Colour coded to | T568A and T568B |
| IDC Blocks | IDC |
| Colour | Black |
| Retention | 50N |
| Current rating | 1.5 AMP |
| Contact resistance | 20 mΩ Max. |
| Insulation resistance | 500MΩ Min. |
| Dielectric strength | 750V AC RMS 60Hz 1MIN |
| Housing material | High Impact flame retardant UL94V-0 rated |
| Insert material | PC+20%GF UL94V-0 |
| PCB material | FR4, 1.6mm Thickness |
| Contact material | 50 min Gold plated over 70-100min nickel Phosphor bronze |
| IDC contact material | Phosphor bronze Alloy Plated with 100 micro-inch of tin |
| Life (plug in /out) | ≥750 times |
| IDC life | ≥250 times |

## Ordering Information

| P.N | Description |
|---|---|
| PS6A1U4T | 1U, CAT6A, UTP, Modular Patch Panel 24 Port, Loaded with keystone jacks tool-less 180 degree |
| PS6A1U4D | 1U, CAT6A, UTP, Modular Patch Panel 24 Port, Loaded with keystone jacks Punch down180 degree |
| PA6A1U4D | 1U, CAT6A, UTP, Angled Modular Patch Panel 24 Port, Loaded with keystone jacks Punch down180 degree |
| PA6A1U4T | 1U, CAT6A, UTP, Angled Modular Patch Panel 24 Port, Loaded with keystone jacks tool less 180 degree |

# U/FTP CAT6A cable






For horizontal network and voice application in a structured cabling system, including IEEE 802.3an: 10G Base-T Gigabit Ethernet, 2.4/1.2Gb/s ATM, digital video, broadband & baseband analog video.
VOYGAR Solid bare copper conductors insulated with foam thermoplastics polyolefin. Two insulated conductors twisted together to form a pair shielded with Aluminum Polyester Tape. Four such pairs cabled to form the basic unit. Outer Jacket with LSZH compound.

## Features

500MHz with over 2.5Gbps
25 Years Warranty
Unshielded
LSZH jackets
Available in different colors and lengths
Durable for 750 insertion cycles

## Reference Standards

International: IEC 61156-5 edit 2.0
North American: TIA-568-C.2 Cat.6

## Certificates

Delta EC, ETL

## Specifications

| | | |
|---|---|---|
| **Conductor** | Size | 23AWG |
| | Type | Solid bare copper |
| | Diameter (mm) | 0.56± 0.01 |
| **Insulation** | Type | Foam PE |
| | Diameter (mm) | 1.32 ± 0.05 |
| | Min. thickness (mm) | 0.36 |
| **Central Element** | Type | PE cross separator |
| **Shield** | tinned copper drain wire<br>Type (each Pair Shielded) | 0.495 mm<br>Aluminum Polyester Tape |
| **Jacket** | Type | LSZH |
| | Overall Diameter (mm) | 7.47± 0.3 |

## Physical Specifications

| | | |
|---|---|---|
| **Cold bend test** | -20 ± 2℃ X 4hrs no. crack | |
| **Dielectric strength** | AC 1.7 KV for 2 s | |
| **Insulation** | **Before Aging** | **After aging** |
| **Min. Tension strength (psi)** | 1300 | 75% before aging (100℃ X 48hrs) |
| **Min elongation (%)** | 300 | 75% before aging (100℃ X 48hrs) |
| **Jacket** | | |
| **Min. Tension strength (psi)** | 2000 | 75% before aging (100℃ X 168hrs) |
| **Min elongation (%)** | 100 | 50% before aging (100℃ X 168hrs) |
| **Min. bending radius (mm)** | 60 | |
| **Max. pulling tension (lbs)** | 25 | |
| **Installation temperature** | -10℃ to +60℃ | |
| **Operating temperature** | -10℃ to +60℃ | |

## Transmission Performance

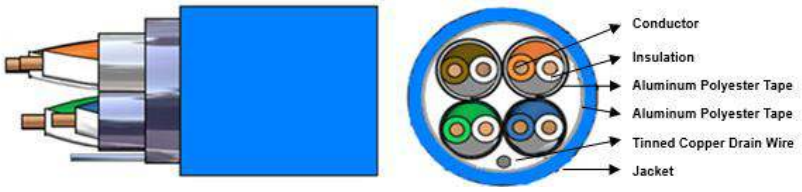
**IEC 61156-5 ed.2.0 Category 6A horizontal cable parameters**

| Freq. (MHz) | Ins. Loss | RL | Pair to Pair | | Power Sum | | Delay Skew | Po. Delay |
|---|---|---|---|---|---|---|---|---|
| | | | NEXT | ELFEXT | NEXT | ELFEXT | | |
| | (dB/100m) | (dB) | (dB/100m) | | (dB/100m) | | (ns/100m) | (ns/100) |
| | Max. | Min. | Min. | Min. | Min. | Min. | Max | Max. |
| 1 | - | 20.0 | 75.3 | - | 72.3 | - | -- | 570.0 |
| 4 | 3.8 | 23.0 | 66.3 | 56.0 | 63.3 | 53.0 | 45 | 552.0 |
| 10 | 5.9 | 25.0 | 60.3 | 48.0 | 57.3 | 45.0 | 45 | 545.4 |
| 16 | 7.5 | 25.0 | 57.2 | 43.9 | 54.2 | 40.9 | 45 | 543.0 |
| 20 | 8.4 | 25.0 | 55.8 | 42.0 | 52.8 | 39.0 | 45 | 542.0 |
| 31.25 | 10.5 | 23.6 | 52.9 | 38.1 | 49.9 | 35.1 | 45 | 540.4 |
| 62.5 | 15 | 21.5 | 48.4 | 32.1 | 45.4 | 29.1 | 45 | 538.6 |
| 100 | 19.1 | 20.1 | 45.3 | 28.0 | 42.3 | 25.0 | 45 | 537.6 |
| 200 | 27.6 | 18.0 | 40.8 | 22.0 | 37.8 | 19.0 | 45 | 536.5 |
| 250 | 31.1 | 17.3 | 39.3 | 20.0 | 36.3 | 17.0 | 45 | 536.3 |
| 300 | 34.3 | 17.3 | 38.1 | 18.5 | 35.1 | 15.5 | 45 | 536.1 |
| 400 | 40.1 | 17.3 | 36.3 | 16.0 | 33.3 | 13.0 | 45 | 535.8 |
| 500 | 45.3 | 17.3 | 34.8 | 14.0 | 31.8 | 11.0 | 45 | 535.6 |

## Ordering Information

| P.N | Description |
|---|---|
| C6A3BL51 | VOYGAR CAT6A U/FTP 23AWG, LSZH CABLE 500M, White |
| C6A3BL59 | VOYGAR CAT6A U/FTP 23AWG, LSZH CABLE 500M, Blue |
| C6A3BL57 | VOYGAR CAT6A U/FTP 23AWG, LSZH CABLE 500M, Orange |
| C6A3BL54 | VOYGAR CAT6A U/FTP 23AWG, LSZH CABLE 500M, Grey |
| C6A3BL58 | VOYGAR CAT6A U/FTP 23AWG, LSZH CABLE 500M, Red |
| C6A3BL31 | VOYGAR CAT6A U/FTP 23AWG, LSZH CABLE 305M, White |
| C6A3BL39 | VOYGAR CAT6A U/FTP 23AWG, LSZH CABLE 305M, Blue |
| C6A3BL37 | VOYGAR CAT6A U/FTP 23AWG, LSZH CABLE 305M, Orange |
| C6A3BL34 | VOYGAR CAT6A U/FTP 23AWG, LSZH CABLE 305M, Grey |
| C6A3BL38 | VOYGAR CAT6A U/FTP 23AWG, LSZH CABLE 305M, Red |

# F/FTP CAT6A cable




For horizontal network and voice application in a structured cabling system, including IEEE 802.3an: 10G Base-T Gigabit Ethernet, 2.4/1.2Gb/s ATM, digital video, broadband & baseband analog video.
VOYGAR Solid bare copper conductors insulated with foam thermoplastics polyolefin. Two insulated conductors twisted together to form a pair shielded with Aluminum Polyester Tape. Four such pairs cabled to form the basic unit. Outer Jacket with LSZH compound.

## Features

500MHz with over 2.5Gbps
25 Years Warranty
Unshielded
LSZH jackets
Available in different colors and lengths
Durable for 750 insertion cycles

## Reference Standards

International: IEC 61156-5 edit 2.0
North American: TIA-568-C.2 Cat.6

## Certificates

Delta EC, ETL

## Specification

| | | |
|---|---|---|
| **Conductor** | Size | 23AWG |
| | Type | Solid bare copper |
| | Diameter (mm) | 0.56± 0.01 |
| **Insulation** | Type | Foam PE |
| | Diameter (mm) | 1.32 ± 0.05 |
| | Min. thickness (mm) | 0.36 |
| **Central Element** | Type | PE cross separator |
| **Shield** | tinned copper drain wire<br>Type (each Pair Shielded) | 0.495 mm<br>Aluminum Polyester Tape |
| **Jacket** | Type | LSZH |
| | Overall Diameter (mm) | 7.59± 0.3 |

## Physical Specifications

| | | |
|---|---|---|
| **Cold bend test** | -20 ± 2℃ X 4hrs no. crack | |
| **Dielectric strength** | AC 1.7 KV for 2 s | |
| **Insulation** | **Before Aging** | **After aging** |
| **Min. Tension strength (psi)** | 1300 | 75% before aging (100℃ X 48hrs) |
| **Min elongation (%)** | 300 | 75% before aging (100℃ X 48hrs) |
| **Jacket** | | |
| **Min. Tension strength (psi)** | 2000 | 75% before aging (100℃ X 168hrs) |
| **Min elongation (%)** | 100 | 50% before aging (100℃ X 168hrs) |
| **Min. bending radius (mm)** | 60 | |
| **Max. pulling tension (lbs)** | 25 | |
| **Installation temperature** | -10℃ to +60℃ | |
| **Operating temperature** | -10℃ to +60℃ | |

## Transmission Performance

**IEC 61156-5 ed.2.0 Category 6A horizontal cable parameters**

| Freq. (MHz) | Ins. Loss | RL | Pair to Pair | | Power Sum | | Delay Skew | Po. Delay |
|---|---|---|---|---|---|---|---|---|
| | | | NEXT | ELFEXT | NEXT | ELFEXT | | |
| | (dB/100m) | (dB) | (dB/100m) | | (dB/100m) | | (ns/100m) | (ns/100) |
| | Max. | Min. | Min. | Min. | Min. | Min. | Max | Max. |
| 1 | - | 20.0 | - | - | - | - | -- | - |
| 4 | 3.8 | 23.0 | 66.3 | 56.0 | 63.3 | 53.0 | 45 | 552.0 |
| 10 | 5.9 | 25.0 | 60.3 | 48.0 | 57.3 | 45.0 | 45 | 545.4 |
| 16 | 7.5 | 25.0 | 57.2 | 43.9 | 54.2 | 40.9 | 45 | 543.0 |
| 20 | 8.4 | 25.0 | 55.8 | 42.0 | 52.8 | 39.0 | 45 | 542.0 |
| 31.25 | 10.5 | 24.3 | 52.9 | 38.1 | 49.9 | 35.1 | 45 | 540.4 |
| 62.5 | 15 | 23.6 | 48.4 | 32.1 | 45.4 | 29.1 | 45 | 538.6 |
| 100 | 19.1 | 21.5 | 45.3 | 28.0 | 42.3 | 25.0 | 45 | 537.6 |
| 200 | 27.6 | 18.0 | 40.8 | 22.0 | 37.8 | 19.0 | 45 | 536.5 |
| 250 | 31.1 | 17.3 | 39.3 | 20.0 | 36.3 | 17.0 | 45 | 536.3 |
| 300 | 34.3 | 17.3 | 38.1 | 18.5 | 35.1 | 15.5 | 45 | 536.1 |
| 400 | 40.1 | 17.3 | 36.3 | 16.0 | 33.3 | 13.0 | 45 | 535.8 |
| 500 | 45.3 | 17.3 | 34.8 | 14.0 | 31.8 | 11.0 | 45 | 535.6 |

## Ordering Information

| P.N | Description |
|---|---|
| C6A3SL51 | VOYGAR CAT6A S/FTP 23AWG, LSZH CABLE 500M, White |
| C6A3SL59 | VOYGAR CAT6A S/FTP 23AWG, LSZH CABLE 500M, Blue |
| C6A3SL57 | VOYGAR CAT6A S/FTP 23AWG, LSZH CABLE 500M, Orange |
| C6A3SL54 | VOYGAR CAT6A S/FTP 23AWG, LSZH CABLE 500M, Grey |
| C6A3SL58 | VOYGAR CAT6A S/FTP 23AWG, LSZH CABLE 500M, Red |
| C6A3SL51 | VOYGAR CAT6A S/FTP 23AWG, LSZH CABLE 500M, White |
| C6A3SL59 | VOYGAR CAT6A S/FTP 23AWG, LSZH CABLE 500M, Blue |
| C6A3SL57 | VOYGAR CAT6A S/FTP 23AWG, LSZH CABLE 500M, Orange |
| C6A3SL54 | VOYGAR CAT6A S/FTP 23AWG, LSZH CABLE 500M, Grey |
| C6A3SL58 | VOYGAR CAT6A S/FTP 23AWG, LSZH CABLE 500M, Red |
| C6A3SL51 | VOYGAR CAT6A S/FTP 23AWG, LSZH CABLE 500M, White |
| C6A3SL59 | VOYGAR CAT6A S/FTP 23AWG, LSZH CABLE 500M, Blue |

# STP CAT6A Keystone Jack




Category 6 STP Keystone jack modules are designed and manufactured to meet and exceed the ISO, CENELEC and TIA standards available in a choice of 90°, 180° shuttered and non-shuttered. This delivers Class FA link and channel performance supporting all applications detailed and proposed within the standards. This superior performance cable is ETL Component Verified.

## Features & Benefits

Quick and easy to install
Snap-fit to terminate
Suitable for all standard keystone applications
Integrated cable tie position
T568A and T568B color coded wiring terminals
Meets or exceeds TIA /EIA 568 B .2, ISO/IEC11801
Phosphor bronze with 50um gold plated
Easy wiring fit for 110 punch-down tools
Termination solid wire 22 ~ 26AWG

## Applications

Ethernet 10 BaseT
Fast Ethernet 100 BaseTX
Gigabit Ethernet 1000 BaseT
Gigabit Ethernet 1000 BaseTX
Token Ring 4/16 Mbit/s
ATM 155 Mbit/s
VoIP (Voice over IP)
PoE (Power over Ethernet)
ROHS Complaint

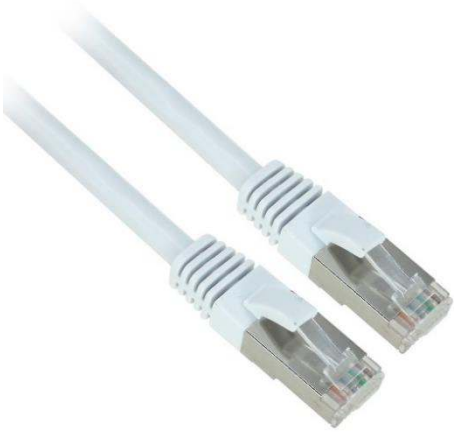
## General Specifications

| | |
|---|---|
| Housing | Zinc-alloy fully shielded |
| PCB | FR4, 1.6mm thickness |
| Spring wire | Phosphor bronze alloy plated<br>with 50 micro-inch of gold over<br>70~100 of gold over 70~100 micro-inch of nickel |
| IDC | phosphor bronze alloy plated with 100 micro-inch of tin |
| IDC seat | High impact flame retardant plastic, UL 94V-0 rated |
| Category | Cat.6a |
| Retention | 50N |
| Current rating | 1.5 AMP |
| Contact resistance | 20 mΩ Max. |
| IDC Contact resistance | 2.5 mΩ Max. |
| Insulation resistance | 500MΩ Min. @ 100VDC |
| Dielectric strength | 1000V AC RMS 60Hz 1MIN |
| Housing material | Zinc Alloy |
| Insert material | PC+20%GF UL94V-0 |
| Contact material | 50 min Gold plated<br>Over 70-100min nickel Phosphor bronze |
| Wire AWG | 22 ~ 24 |
| Relative humidity operation | Maximum noncondensing 93% |
| Jack insertion life | >750 mating cycles |
| IDC insertion life | >250 mating cycles |
| Operating Temperature Range | -10 to +60°C |
| Storage Temperature Range | -40 to +70°C |
| Product certifications | ETL verified |

## Ordering Information

| P.N | Description |
|---|---|
| K6AS81DS | VOYGAR CAT6A, STP 180 degree Punch down Keystone Jack, with Dust cover |
| K6AS80DS | VOYGAR CAT6A, STP 180 degree Punch down Keystone Jack, |
| K6AS81TS | VOYGAR CAT6A, STP 180 degree Tool less, Keystone Jack, with Dust cover |
| K6AS80TS | VOYGAR CAT6A, STP 180 degree Tool less, Keystone Jack, |

# FTP CAT6A Patch Cord



The VOYGAR Cat 6A U/UTP Patch Leads offer Cat 6A compliant performance and support high speed protocols up to 10G Ethernet.

The plugs are fitted with a protected latch that prevents snagging when pulling cables out of wiring zones.

## Features & Benefits

Specified to 500MHz
Suitable for10GBASE-T, 10 Gigabit Ethernet Applications
Meets or exceeds Cat.6A requirements when full product system is used
50-micron gold plated RJ-45 male-to -male
PVC , Low Smoke Zero Halogen & Outer Sheath are available
Multiple Selection of Lengths and Colors
RoHS Compliant

## General Specifications

| | |
|---|---|
| Cable Type | F/FTP |
| Category | 6A |
| Dc Resistance, maximum | 0.30 ohm |
| Voltage Rating | 300 V |
| Loop resistance | <2 Ω |
| Contact resistance | <20 mΩ |
| Total resistance of the cord | <5 Ω |
| Resistance per 100 m | <14 Ω |
| Plug Retention Force, Min | 133 N |
| DC dielectric strength | 1 KV/1 min |
| Characteristic impedance | 100 Ω ± 15 |
| Flammability Rating | UL 94 V-0 |
| Operating Temperature | -10°C to +60°C |
| Fire resistance: | IEC 60332-1, UL VW-1 |
| Conductor Type | Stranded |
| Conductor Material Type | 26 AWG Stranded Copper |
| Number of insertions | 750 times |
| Wiring | T568B |
| Cable diameter | 7.2mm |
| Diameter over insulation | 0.98mm |

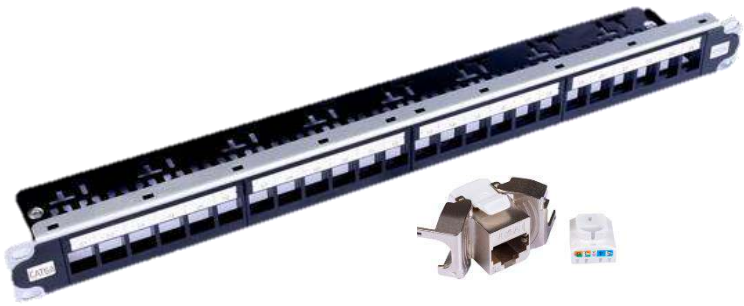
## Standards

ISO/IEC 11801
EN 50173 Ed.1
ANSI/TIA-568-C.2
BS EN 50173

## Ordering Information

| P.N | Description |
|---|---|
| P6A4FL11 | VOYGAR Cat6A, FTP, Patch Cord, 1m, LSZH, White |
| P6A4FL19 | VOYGAR Cat6A, FTP, Patch Cord, 1m, LSZH, Blue |
| P6A4FL17 | VOYGAR Cat6A, FTP, Patch Cord, 1m, LSZH, Orange |
| P6A4FL14 | VOYGAR Cat6A, FTP, Patch Cord, 1m, LSZH, Grey |
| P6A4FL18 | VOYGAR Cat6A, FTP, Patch Cord, 1m, LSZH, Red |
| P6A4FL31 | VOYGAR Cat6A, FTP, Patch Cord, 3m, LSZH, White |
| P6A4FL39 | VOYGAR Cat6A, FTP, Patch Cord, 3m, LSZH, Blue |
| P6A4FL37 | VOYGAR Cat6A, FTP, Patch Cord, 3m, LSZH, Orange |
| P6A4FL34 | VOYGAR Cat6A, FTP, Patch Cord, 3m, LSZH, Gray |
| P6A4FL38 | VOYGAR Cat6A, FTP, Patch Cord, 3m, LSZH, Red |
| P6A4FL51 | VOYGAR Cat6A, FTP, Patch Cord, 5m, LSZH, White |
| P6A4FL59 | VOYGAR Cat6A, FTP, Patch Cord, 5m, LSZH, Blue |
| P6A4FL57 | VOYGAR Cat6A, FTP, Patch Cord, 5m, LSZH, Orange |
| P6A4FL54 | VOYGAR Cat6A, FTP, Patch Cord, 5m, LSZH, Gray |
| P6A4FL58 | VOYGAR Cat6A, FTP, Patch Cord, 5m, LSZH, Red |

# STP CAT6A Modular Patch Panel



VOYGAR modular unloaded panel with rear cable management. 24 port 1U with labelling field. Double skin powder coated steel design allows snap in RJ45 connectors to fit flush to the front panel for a professional appearance.

## Features & Benefits

Quick and easy to install
Suitable for all standard Keystone applications
Integrated cable tie position
Cat6 hardware performance
T568A and T568B colour coded wiring terminals
Integral, removable cable management
Data, Voice, video and other applications
Clear numbering on the front of each RJ45 port
Earth bonding point and 400mm earth wire provided

## Panel Specifications

| | |
|---|---|
| Support Bar Material | SPCC |
| Support Bar thickness | 1.5mm |
| Rear Panel Material | SPCC |
| Frame | PC, UL 94V-2. |
| Rear Panel Thickness | 1.5mm |
| Ground Wire | 18 AWG Wire, with Green/ Yellow striped colour |
| Panel Back | 5-8µ Nickel Plating |
| Frame | 5-8µ Nickel Plating |
| Rack Type | EIA 19 inch |
| Total Ports Quantity | 24 |

## Jack Specifications

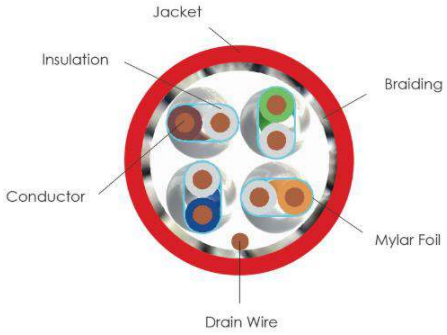
| | |
|---|---|
| Interface Type | RJ45 |
| Shield Type | STP |
| Category acceptance | CAT6A |
| Termination type | Tool-less |
| IDC Labels Colour coded to | T568A and T568B |
| IDC Blocks | IDC |
| Retention | 50N |
| Current rating | 1.5 AMP |
| Contact resistance | 20 mΩ Max. |
| Insulation resistance | 500MΩ Min. |
| Dielectric strength | 750V AC RMS 60Hz 1MIN |
| Housing material | Zinc Alloy |
| Insert material | PC+20%GF UL94V-0 |
| PCB material | FR4, 1.6mm Thickness |
| Contact material | 50 min Gold plated over70-100min nickel Phosphor bronze |
| IDC contact material | Phosphor bronze Alloy Plated with 100 micro-inch of tin |
| Life (plug in /out) | ≥750 times |
| IDC life | ≥250 times |

## Ordering Information

| P.N | Description |
|---|---|
| PS6A1S4T | 1U CAT6A STP Modular Patch Panel 24 Port, Loaded with keystone jacks tool less 180 degree |
| PS6A1S4D | 1U CAT6A STP Modular Patch Panel 24 Port, Loaded with keystone jacks punch down 180 degree |
| PA6A1S4T | 1U CAT6A STP Angled Modular Patch Panel 24 Port, Loaded with keystone jacks tool less 180 degree |

# S/FTP CAT7 cable






VOYGAR Solid bare copper conductors insulated with foam thermoplastics polyolefin. Two insulated conductors twisted together to form a pair shielded with Aluminum Polyester Tape. Four such pairs cabled to form the basic unit. Tinned copper braiding overall the 4pairs. Overall jacket with LSZH compound.

## Features

Extremely high bandwidth of 600 MHz
Individual pair shielding to provide EMI protection
Highest signal-to-noise ratio to reduce related downtime and network errors
Every master reel is tested to ensure electrical performance compliance

## Standards

ISO/IEC 11801:2011(Ed 2.2)
IEC 61156-5:2009(Ed.2.0)
EN50173-1:2011
EN50173-2:2007 including amendment A1:2010RoHS compliant

## Specification

| | | |
|---|---|---|
| **Conductor** | Size | 23AWG |
| | Type | Solid bare copper |
| | Diameter (mm) | 0.56± 0.01 |
| **Insulation** | Type | Foam PE |
| | Diameter (mm) | 1.40± 0.05 |
| | Min. thickness (mm) | 0.378 |
| **Shield** | Type | Aluminum Polyester Tape |
| **Jacket** | Type | LSZH |
| | Overall Diameter (mm) | 8.36± 0.3mm |

## Physical Specifications

| | | |
|---|---|---|
| **Cold bend test** | -20 ± 2℃ X 4hrs no. crack | |
| **Dielectric strength** | AC 1.7 KV for 2 s | |
| **Insulation** | **Before Aging** | **After Aging** |
| **Min. Tension strength (psi)** | 1300 | 75% before aging (100℃ X 48hrs) |
| **Min elongation (%)** | 300 | 75% before aging (100℃ X 48hrs) |
| **Min. Tension strength (psi)** | 1300 | 60% before aging (100℃ X 168hrs) |
| **Min elongation (%)** | 100 | 60% before aging (100℃ X 168hrs) |
| **Min. bending radius (mm)** | 67 | |
| **Max. pulling tension (lbs)** | 25 | |
| **Installation temperature** | -10℃ to +60℃ | |
| **Operating temperature** | -10℃ to +60℃ | |

## Transmission Performance

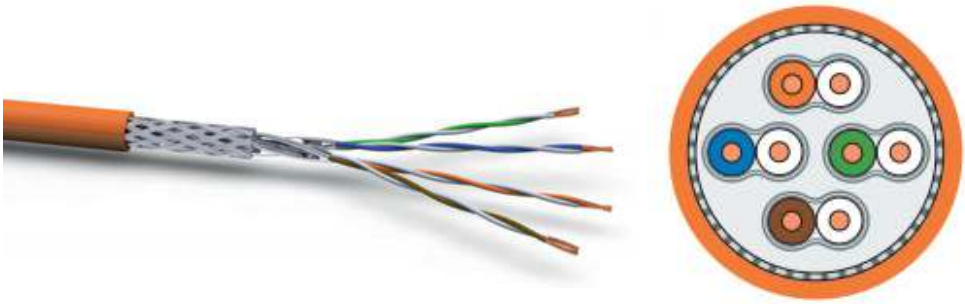
IEC 61156-5 ed.2.0 Category 7 horizontal cable parameters

| Freq. (MHz) | Ins. Loss (dB/100m) | RL (dB) | Pair to Pair | | Power Sum | | Delay Skew (ns/100m) | Po. Delay (ns/100) |
|---|---|---|---|---|---|---|---|---|
| | | | NEXT | ELFEXT | NEXT | ELFEXT | | |
| | | | (dB/100m) | | (dB/100m) | | | |
| | Max. | Min. | Min. | Min. | Min. | Min. | Max. | Max. |
| 1 | - | 20.0 | 78 | - | 75.0 | - | - | 570.0 |
| 4 | 3.7 | 23.0 | 78 | 78.0 | 75.0 | 75.0 | 25 | 552.0 |
| 10 | 5.9 | 25.0 | 78 | 75.3 | 75.0 | 72.3 | 25 | 545.4 |
| 16 | 7.4 | 25.0 | 78 | 71.2 | 75.0 | 68.2 | 25 | 543.0 |
| 20 | 8.3 | 25.0 | 78 | 69.3 | 75.0 | 66.3 | 25 | 542.0 |
| 31.25 | 10.4 | 23.6 | 78 | 65.4 | 75.0 | 62.4 | 25 | 540.4 |
| 62.5 | 14.9 | 21.5 | 75.5 | 59.4 | 72.5 | 56.4 | 25 | 538.6 |
| 100 | 19.0 | 20.1 | 72.4 | 55.3 | 69.4 | 52.3 | 25 | 537.6 |
| 200 | 27.5 | 18.0 | 67.9 | 49.3 | 64.9 | 46.3 | 25 | 536.5 |
| 250 | 31.0 | 17.3 | 66.4 | 47.3 | 63.4 | 44.3 | 25 | 536.3 |
| 400 | 40.0 | 17.3 | 63.4 | 43.3 | 60.4 | 40.3 | 25 | 535.8 |
| 500 | 45.3 | 17.3 | 61.9 | 41.3 | 58.9 | 38.3 | 25 | 535.6 |
| 600 | 50.1 | 17.3 | 60.7 | 39.7 | 57.7 | 36.7 | 25 | 535.5 |

## Ordering Information

| P.N | Description |
|---|---|
| C7E3SL51 | VOYGAR CAT7 S/FTP 4* 23AWG, 600MHz LSZH CABLE 500M, White |
| C7E3SL59 | VOYGAR CAT7 S/FTP 4* 23AWG, 600MHz LSZH CABLE 500M, Blue |
| C7E3SL57 | VOYGAR CAT7 S/FTP 4* 23AWG, 600MHz LSZH CABLE 500M, Orange |
| C7E3SL54 | VOYGAR CAT7 S/FTP 4* 23AWG, 600MHz LSZH CABLE 500M, Grey |
| C7E3SL58 | VOYGAR CAT7 S/FTP 4* 23AWG, 600MHz LSZH CABLE 500M, Red |
| C7E3SL11 | VOYGAR CAT7 S/FTP 4* 23AWG, 600MHz LSZH CABLE 1000M, White |
| C7E3SL19 | VOYGAR CAT7 S/FTP 4* 23AWG, 600MHz LSZH CABLE 1000M, Blue |
| C7E3SL17 | VOYGAR CAT7 S/FTP 4* 23AWG, 600MHz LSZH CABLE 1000M, Orange |
| C7E3SL14 | VOYGAR CAT7 S/FTP 4* 23AWG, 600MHz LSZH CABLE 1000M, Grey |
| C7E3SL18 | VOYGAR CAT7 S/FTP 4* 23AWG, 600MHz LSZH CABLE 1000M, Red |

# S/FTP CAT7 2000MHz (FRNC) cable



VOYGAR Data cable for analogue and digital signal transmission in data centers in the frequency range up to 2000 MHz using End of Rack and Top of Rack (EoR/ToR) cabling. For Usage up to Link Class I and II (2000 MHz) approved. Approved for usage acc. to euro class classification Dca.

## Features

Extremely high bandwidth of 600 MHz
Individual pair shielding to provide EMI protection
Highest signal-to-noise ratio to reduce related downtime and network errors
Every master reel is tested to ensure electrical performance compliance

## Applications

IEEE 802.3: Ethernet 10Base-T; Fast Ethernet
100Base-T; Gigabit Ethernet 1000Base-T; 10GBase-T
IEEE 802.5: ISDN; FDDI; ATM; Cable sharing
IEEE 802.3at: PoE / PoE+ suitable

## Standards

ISO/IEC 11801:2011(Ed 2.2)
IEC 61156-5:2009(Ed.2.0)
EN 50288-4-1
EN50173-1:2011
EN 50174-2

## Specification

| | | |
|---|---|---|
| **Conductor** | Size | 23AWG |
| | Type | Solid bare copper |
| | Diameter (mm) | 1,38 ± 0,05 mm |
| **Insulation** | Type | SFS-PE |
| | Color | Orange, RAL 2003 |
| **Shield** | Type | Plastic-laminated aluminum foil |
| **Jacket** | Type | Halogen-free compound (FRNC) |

## Physical Specifications

| | |
|---|---|
| **Temperature range stationary** | -20°C to +60°C |
| **Temperature range during inst.** | 0°C to +50°C |
| **max. bending radius installed** | 4 x outer diameter |
| **max. bending radius moved** | 8 x outer diameter |
| **Maximum traction** | 110/220N |
| **Fire load** | 0,150/0,300kWh/m |

## Transmission Performance

IEC 61156-5 ed.2.0 Category 7 horizontal cable parameters

| Freq. (MHz) | Attenuation (dB/100m) | RL (dB) | NEXT (dB) | ACR (dB/100m) | EL-FEXT (dB/10m) |
|---|---|---|---|---|---|
| | NOM. | NOM. | NOM. | NOM. | NOM. |
| 1 | 1,7 | 25 | 108 | 106 | 95 |
| 4 | 3,2 | 28 | 108 | 105 | 93 |
| 10 | 5,2 | 30 | 108 | 103 | 92 |
| 16 | 6,5 | 32 | 108 | 101 | 91 |
| 20 | 7,3 | 34 | 108 | 101 | 90 |
| 31,25 | 9,3 | 35 | 105 | 96 | 86 |
| 62,5 | 13,2 | 34 | 105 | 92 | 82 |
| 100 | 17 | 33 | 103 | 86 | 77 |
| 155 | 21,3 | 30 | 100 | 79 | 73 |
| 200 | 24,3 | 29 | 98 | 74 | 70 |
| 300 | 30 | 27 | 97 | 67 | 67 |
| 500 | 39,3 | 24 | 93 | 54 | 62 |
| 600 | 43,4 | 23 | 90 | 47 | 60 |
| 800 | 50,2 | 22 | 88 | 38 | 56 |
| 900 | 56 | 21 | 85 | 29 | 53 |
| 1000 | 58 | 20 | 82 | 24 | 50 |

## Ordering Information

| P.N | Description |
|---|---|
| V7E3SF51 | VOYGAR CAT7 S/FTP 600MHz 4PR AWG 23/1 Dca Halogen-free compound (FRNC) CABLE Roll 500M, White |
| V7E3SF11 | VOYGAR CAT7 S/FTP 600MHz 4PR AWG 23/1 Dca Halogen-free compound (FRNC) CABLE Roll 1000M, White |
| V7E3SF57 | VOYGAR CAT7 S/FTP 600MHz 4PR AWG 23/1 Dca Halogen-free compound (FRNC) CABLE Roll 500M Orange |
| V7E3SF17 | VOYGAR CAT7 S/FTP 600MHz 4PR AWG 23/1 Dca Halogen-free compound (FRNC) CABLE Roll 1000M Orange |
| V7E3SF59 | VOYGAR CAT7 S/FTP 600MHz 4PR AWG 23/1 Dca Halogen-free compound (FRNC) CABLE Roll 500M, Blue |
| V7E3SF19 | VOYGAR CAT7 S/FTP 600MHz 4PR AWG 23/1 Dca Halogen-free compound (FRNC) CABLE Roll 1000M, Blue |
| V7E3SF54 | VOYGAR CAT7 S/FTP 600MHz 4PR AWG 23/1 Dca Halogen-free compound (FRNC) CABLE Roll 500M Grey |
| V7E3SF14 | VOYGAR CAT7 S/FTP 600MHz 4PR AWG 23/1 Dca Halogen-free compound (FRNC) CABLE Roll 1000M Grey |
| V7E3SF58 | VOYGAR CAT7 S/FTP 600MHz 4PR AWG 23/1 Dca Halogen-free compound (FRNC) CABLE Roll 500M Red |
| V7E3SF18 | VOYGAR CAT7 S/FTP 600MHz 4PR AWG 23/1 Dca Halogen-free compound (FRNC) CABLE Roll 1000M Red |

# CAT7 STP Tool less Keystone Jack



VOYGAR Tool Free Keystone Modules ensure a quick and easy to Terminate. The snap-fit to terminate design means that a Punch down tool is not required. They have been designed to be installed into most UK and European. The module offers a high-performance transmission that meets Category7. Compatible with 24-port snap-in STP patch panels and together with high quality
Performance, the category7 STP jack provides flexibility for your field installation together with high quality performance. The jack also forms part of the faceplate.

## Features & Benefits

CAT7 Performance Speeds of up to 10G
8 Pin x 8 Conductor for Streamlined Connection
High-Density, Slim Profile
Reliable Connector, and Durable Housing
Gold-Plated Nickel Contacts Provide Corrosion Resistance and Signal Conductivity
Easy to Read Wiring Label to Facilitate Installation
Die-Cast Housing, effective protection from EMI and Alien Crosstalk
Tool-Less Design, No Impact tool required

## General Specifications

| | |
|---|---|
| Connector type | RJ45 |
| Type of footprint | Keystone |
| Category | 7 |
| Shielding | Shielded |
| Bracket | Nickel Silver Alloy |
| Keystone jack housing | Zinc Alloy, Nickel plated. |
| Rear Housing | Zinc Alloy, Nickel plated. |
| Keystone jack latch | PC+ABS, UL94V-0. |
| Contact Holder | PC, UL94V-0. |
| Shutter | PC, UL94V-0. |
| Spring | SUS304. |
| Jack Contacts | Phosphor Bronze 50U" Gold Painting. |
| IDC Plastic | PC, UL94V-0. |
| IDC Terminal | Phosphor Bronze, TIN Over Nickel Undercoat |
| IDC Blocks | Tool-less IDC mechanism |
| IDC Labels Color coded to | T568A and T568B |

## Applications

Ethernet 10 BaseT
Fast Ethernet 100 BaseTX
Gigabit Ethernet 1000 BaseT
Gigabit Ethernet 1000 BaseTX
Token Ring 4/16 Mbit/s
VoIP (Voice over IP)
PoE (Power over Ethernet)

## Standards

ANSI/TIA-568-C.2
ISO/IEC 11801:2011 (Ed 2.2) Class E
CENELEC EN 50173-1:2011
ANSI/TIA-1096-A (formerly FCC Part 68)
IEC 60603-7-4
ROHS Complaint

# Cat7 FTP Patch Cord



VOYGAR CAT7 Patch Cables are great for High-speed Data Network applications including indoor voice, data, video, and security networking applications.
VOYGAR Product quality is essential to a reliable network, our CAT7 patch cables are durable, flexible and well-constructed. This patch cable features a PVC jacket, stranded bare copper wire and RJ45 connectors with gold-plated contacts.
VOYGAR CAT7 Patch Cords meet and/or exceed CAT7 ANSI/TIA-568-C.2 standards.
Our CAT7 patch cables are UL Listed, ETL Verified and RoHS Compliant.

## Features & Benefits

High-Performance Data Communications Cable
CAT7 Individually Shielded Patch Cable with Snag less moulded Boot
Great for 10 Gigabit High-Speed Data applications
Stranded Copper Conductors
26 AWG Stranded Bare Copper Conductors
Excellent Attenuation and Crosstalk Characteristics
Factory Machine Made and Injection moulded
Snag less Boot Design for easy handling
Gold Plated Contacts

## General Specifications

| | |
|---|---|
| Cable Type | CAT7- SFTP |
| Transfer Speed / Bandwidth | 10Gbps / 2000Mhz |
| Insulation material | HDPE |
| Insulation Diameter | 0.75±0.05mm |
| Connector Type | Shielded 8P8C (RJ45) |
| Connector Material | Nylon |
| Hood Material | moulded |
| Jacket | PVC/LSZH |
| Minimum Average Thickness | 0.60mm |
| Outer Diameter | 7.2mm |
| Cord Length | 1,3,5,10m |

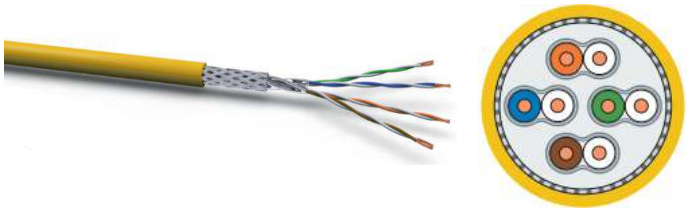
## Standards

ISO/IEC 11801
TIA/EIA-568-C.2
EN 50173 Ed.1
ISO/IEC 11801
BS EN 50173
UL Listed
ETL Verified
RoHS Compliant

## Ordering Information

| P.N | Description |
|---|---|
| P7E4UP11 | VOYGAR Cat7, FTP, Patch Cord, 1m, LSZH, White |
| P7E4UP31 | VOYGAR Cat7, FTP, Patch Cord, 3m, LSZH, White |
| P7E4UP51 | VOYGAR Cat7, FTP, Patch Cord, 5m, LSZH, White |
| P7E4UP01 | VOYGAR Cat7, FTP, Patch Cord, 10m, LSZH, White |
| P7E4UP19 | VOYGAR Cat7, FTP, Patch Cord, 1m, LSZH, Blue |
| P7E4UP39 | VOYGAR Cat7, FTP, Patch Cord, 3m, LSZH, Blue |
| P7E4UP59 | VOYGAR Cat7, FTP, Patch Cord, 5m, LSZH, Blue |
| P7E4UP09 | VOYGAR Cat7, FTP, Patch Cord, 10m, LSZH, Blue |
| P7E4UP17 | VOYGAR Cat7, FTP, Patch Cord, 1m, LSZH, Orange |
| P7E4UP37 | VOYGAR Cat7, FTP, Patch Cord, 3m, LSZH, Orange |
| P7E4UP57 | VOYGAR Cat7, FTP, Patch Cord, 5m, LSZH, Orange |
| P7E4UP07 | VOYGAR Cat7, FTP, Patch Cord, 10m, LSZH, Orange |
| P7E4UP14 | VOYGAR Cat7, FTP, Patch Cord, 1m, LSZH, Grey |
| P7E4UP34 | VOYGAR Cat7, FTP, Patch Cord, 3m, LSZH, Grey |
| P7E4UP54 | VOYGAR Cat7, FTP, Patch Cord, 5m, LSZH, Grey |

# S/FTP CAT8 2000MHz (FRNC) cable



VOYGAR Data cable for analogue and digital signal transmission in data centers in the frequency range up to 2000 MHz using End of Rack and Top of Rack (EoR/ToR) cabling. For Usage up to Link Class I and II (2000 MHz) approved. Approved for usage acc. to euro class classification Dca.

## Features

Meets or Exceeds CAT 8 T568C.2 Standards
Extremely high bandwidth of 1000 MHz
Individual pair shielding to provide EMI protection
Highest signal-to-noise ratio to reduce related downtime and network errors
Low Attenuation and Power-Sum Crosstalk
Every master reel is tested to ensure electrical performance compliance

## Applications

IEEE 802.3: Ethernet 10Base-T; Fast Ethernet 100Base-T;
Gigabit Ethernet 1000Base-T; 10GBase-T 25GBase-T; 40GBase-T
IEEE 802.5: ISDN; FDDI; ATM; Cable sharing
IEEE 802.3at: PoE / PoE+ / PoE 4P suitable (class 1-4)

## Standards

EN 50288-9-1
ISO/IEC 11801:2011(Ed 2.2)
IEC 61156-5:2009(Ed.2.0)
IEC 61156-9
EN50173-1:2011
EN50173-2:2007 including amendment A1:2010
EN 50174-2
RoHS compliant

## Specification

| | | |
|---|---|---|
| **Conductor** | Size | 22AWG |
| | Type | Solid bare copper |
| | Diameter (mm) | 0.56± 0.01 |
| **Insulation** | Type | SFS-PE |
| | Diameter (mm) | 1,55 ± 0,05 mm |
| **Shield** | Type | Plastic-laminated aluminum foil |
| **Jacket** | Type | Halogen-free compound (FRNC) |

## Physical Specifications

| | |
|---|---|
| **Temperature range stationary** | -20°C to +60°C |
| **Temperature range during inst.** | 0°C to +50°C |
| **max. bending radius installed** | 4 x outer diameter |
| **max. bending radius moved** | 8 x outer diameter |
| **Maximum traction** | 120N |
| **Fire load** | 0,185kWh/m |

## Transmission Performance

IEC 61156-5 ed.2.0 Category 8 horizontal cable parameters

| Freq. (MHz) | Attenuation (dB/100m) | RL (dB) | NEXT (dB) | ACR (dB/100m) | EL-FEXT (dB/10m) |
|---|---|---|---|---|---|
| | NOM. | NOM. | NOM. | NOM. | NOM. |
| 1 | 1,7 | 25 | 110 | 108 | 105 |
| 4 | 3,2 | 28 | 110 | 107 | 103 |
| 10 | 5 | 30 | 110 | 105 | 100 |
| 16 | 6,3 | 30 | 110 | 104 | 98 |
| 20 | 7 | 30 | 110 | 103 | 95 |
| 31,25 | 8,9 | 30 | 110 | 101 | 93 |
| 62,5 | 13 | 30 | 110 | 97 | 90 |
| 100 | 16,2 | 30 | 108 | 92 | 85 |
| 155 | 21,2 | 29 | 105 | 84 | 82 |
| 200 | 23 | 28 | 102 | 79 | 78 |
| 300 | 28,5 | 27 | 100 | 71 | 70 |
| 500 | 36,2 | 26 | 96 | 60 | 63 |
| 600 | 40,7 | 25 | 93 | 52 | 60 |
| 1000 | 54,2 | 24 | 88 | 34 | 52 |
| 1200 | 57,9 | 23 | 85 | 27 | 42 |
| 1500 | 67,2 | 21 | 83 | 16 | 30 |

## Ordering Information

| P.N | Description |
|---|---|
| V8E3SF51 | VOYGAR CAT8 S/FTP 2000MHz 4PR AWG 22/1 Dca Halogen-free compound (FRNC) CABLE Roll 500M, White |
| V8E3SF59 | VOYGAR CAT8 S/FTP 2000MHz 4PR AWG 22/1 Dca Halogen-free compound (FRNC) CABLE Roll 500M, Blue |
| V8E3SF57 | VOYGAR CAT8 S/FTP 2000MHz 4PR AWG 22/1 Dca Halogen-free compound (FRNC) CABLE Roll 500M, Orange |
| V8E3SF54 | VOYGAR CAT8 S/FTP 2000MHz 4PR AWG 22/1 Dca Halogen-free compound (FRNC) CABLE Roll 500M, Grey |
| V8E3SF58 | VOYGAR CAT8 S/FTP 2000MHz 4PR AWG 22/1 Dca Halogen-free compound (FRNC) CABLE Roll 500M, Red |
| V8E3SF11 | VOYGAR CAT8 S/FTP 2000MHz 4PR AWG 22/1 Dca Halogen-free compound (FRNC) CABLE Roll 1000M, White |
| V8E3SF19 | VOYGAR CAT8 S/FTP 2000MHz 4PR AWG 22/1 Dca Halogen-free compound (FRNC) CABLE Roll 1000M, Blue |
| V8E3SF17 | VOYGAR CAT8 S/FTP 2000MHz 4PR AWG 22/1 Dca Halogen-free compound (FRNC) CABLE Roll 1000M, Orange |
| V8E3SF14 | VOYGAR CAT8 S/FTP 2000MHz 4PR AWG 22/1 Dca Halogen-free compound (FRNC) CABLE Roll 1000M, Grey |
| V8E3SF18 | VOYGAR CAT8 S/FTP 2000MHz 4PR AWG 22/1 Dca Halogen-free compound (FRNC) CABLE Roll 1000M, Red |

# CAT8 STP Tool less Keystone Jack



VOYGAR Tool Free Keystone Modules ensure a quick and easy to Terminate. The snap-fit to terminate design means that a Punch down tool is not required. They have been designed to be installed into most UK and European. The module offers a high-performance transmission that meets Category8. Compatible with 24-port snap-in STP patch panels and together with high quality performance, the category8 STP jack provides flexibility for your field installation together with high quality performance.
The jack also forms part of the faceplate.

## Features & Benefits

Highest rated Keystone Jacks in the market
Cat8 is rated for 40Gb and 2000MHz
Terminate with A or B wiring pattern following the guide on the side
Snaps right into shielded patch panels with 24 ports or 48 ports
Auto cover prevents any dust from getting into gold contacts
Plug in any Ethernet cable into these keystone jacks port in the front
Fits any standard wall plate
Suitable for solid and stranded cable conductors
PoE certified for high performance
UL Listed and RoHS certified for safety and performance compliance
CAT 8 Performance Speeds of up to 40G
8 Pin x 8 Conductor for Streamlined Connection
Tool-Less Design, No Impact tool required

## General Specifications

| | |
|---|---|
| Connector type | RJ45 |
| Type of footprint | Keystone |
| Category | 8 |
| Shielding | Shielded |
| Bracket | Nickel Silver Alloy |
| Keystone jack housing | Zinc Alloy, Nickel plated. |
| Rear Housing | Zinc Alloy, Nickel plated. |
| Jack Contacts | Phosphor Bronze 50U" Gold Painting. |
| Keystone jack latch | PC+ABS, UL94V-0. |
| Contact Holder | PC, UL94V-0. |
| IDC Plastic | PC, UL94V-0. |
| Grounding contact block | zinc die-casting with nickel plated |
| IDC Terminal | Phosphor Bronze, TIN Over Nickel Undercoat |
| IDC Blocks | Tool-less IDC mechanism |
| IDC Labels Color coded to | T568A and T568B |

## Applications

Ethernet 10 BaseT
Fast Ethernet 100 BaseTX
Gigabit Ethernet 1000 BaseT
Gigabit Ethernet 1000 BaseTX
Token Ring 4/16 Mbit/s
VoIP (Voice over IP)
PoE (Power over Ethernet)

## Standards

ANSI/TIA-568-C.2
ISO/IEC 11801:2011 (Ed 2.2) Class E
CENELEC EN 50173-1:2011
ANSI/TIA-1096-A (formerly FCC Part 68)
IEC 60603-7-4
ROHS Complaint

# Cat8 FTP Patch Cord



VOYGAR Cat8 Ethernet cable consists of a RJ45 male on one end and a RJ45 male on the other. It is typically used for Ethernet network connections such as patch panels, switches, computers and routers. It's ultra-thin cable design works perfectly in high density server room applications. These cables are manufactured using high quality pure bare copper to ensure optimal performance and longest lifetime. This non-corrosive, thickest available gold plating delivers optimum conductivity and maintains a stable signal connection with little risk of getting damaged over time. This ultra slim cable is 60% thinner than the regular Cat8 cable which makes it the perfect solution for high density server rooms and data centres. It is also light weight, flexible and can be easily routed.

## Features & Benefits

High-Performance Data Communications Cable
CAT8 Individually Shielded Patch Cable with Snag less moulded Boot
Great for 40 Gigabit High-Speed Data applications
Stranded Copper Conductors
24 AWG Stranded Bare Copper Conductors
Excellent Attenuation and Crosstalk Characteristics
Factory Machine Made and Injection moulded
Snag less Boot Design for easy handling
Gold Plated Contacts

## General Specifications

| | |
|---|---|
| Cable Type | CAT8- SFTP |
| Transfer Speed / Bandwidth | 40Gbps / 2000Mhz |
| Insulation material | HDPE |
| Connector Type | Shielded 8P8C (RJ45) |
| Connector Material | Nylon |
| Boot Material | moulded |
| Jacket | PVC/LSZH |
| Minimum Average Thickness | 0.60mm |
| Cord Length | 1,3,5,10m |

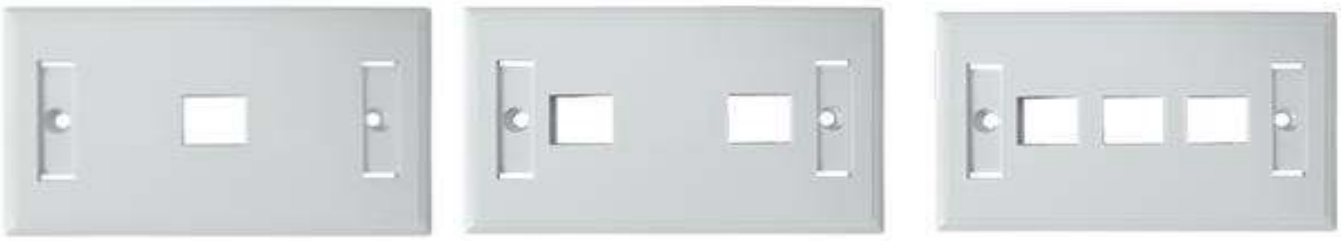
## Standards

ISO/IEC 11801
TIA/EIA-568-C.2
EN 50173 Ed.1
BS EN 50173
UL Listed
ETL Verified
RoHS Compliant

## Ordering Information

| P.N | Description |
|---|---|
| P8E4UP11 | VOYGAR CAT8, FTP, Patch Cord, 1m, LSZH, White |
| P8E4UP31 | VOYGAR CAT8, FTP, Patch Cord, 3m, LSZH, White |
| P8E4UP51 | VOYGAR CAT8, FTP, Patch Cord, 5m, LSZH, White |
| P8E4UP01 | VOYGAR CAT8, FTP, Patch Cord, 10m, LSZH, White |
| P8E4UP19 | VOYGAR CAT8, FTP, Patch Cord, 1m, LSZH, Blue |
| P8E4UP39 | VOYGAR CAT8, FTP, Patch Cord, 3m, LSZH, Blue |
| P8E4UP59 | VOYGAR CAT8, FTP, Patch Cord, 5m, LSZH, Blue |
| P8E4UP09 | VOYGAR CAT8, FTP, Patch Cord, 10m, LSZH, Blue |
| P8E4UP17 | VOYGAR CAT8, FTP, Patch Cord, 1m, LSZH, Orange |
| P8E4UP37 | VOYGAR CAT8, FTP, Patch Cord, 3m, LSZH, Orange |
| P8E4UP57 | VOYGAR CAT8, FTP, Patch Cord, 5m, LSZH, Orange |
| P8E4UP07 | VOYGAR CAT8, FTP, Patch Cord, 10m, LSZH, Orange |
| P8E4UP14 | VOYGAR CAT8, FTP, Patch Cord, 1m, LSZH, Grey |
| P8E4UP34 | VOYGAR CAT8, FTP, Patch Cord, 3m, LSZH, Grey |
| P8E4UP54 | VOYGAR CAT8, FTP, Patch Cord, 5m, LSZH, Grey |
| P8E4UP04 | VOYGAR CAT8, FTP, Patch Cord, 10m, LSZH, Grey |
| P8E4UP18 | VOYGAR CAT8, FTP, Patch Cord, 1m, LSZH, Red |
| P8E4UP38 | VOYGAR CAT8, FTP, Patch Cord, 3m, LSZH, Red |
| P8E4UP58 | VOYGAR CAT8, FTP, Patch Cord, 5m, LSZH, Red |
| P8E4UP08 | VOYGAR CAT8, FTP, Patch Cord, 10m, LSZH, Red |

# US Faceplate



## Features

Accept Keystone Modules for STP and UTP, fiber optic and audio/video, which snap in and Out for easy moves and changes

## General Specifications

| | |
|---|---|
| Product Type | US horizontal type |
| Faceplate Material Type | ABS UL-94V-0 |
| Colour | White |
| Mount Type | Flush |
| Total Ports, quantity | 1, 2, 3 and 4 ports |
| Application | Used Internal outlets |
| Includes | Faceplate (1) Label (2) Label cover (2) Mounting screw (2) |
| Port Marking Type | Label |
| Outlet Orientation | Flat |
| Interface Type | RJ45, Keystone |
| Shield Type | UTP, STP |
| Category acceptance | CAT6, CAT6A |
| Height | 69 mm |
| Width | 114.5 mm |
| Depth | 10.5 mm |
| Flammability Rating: | UL 94 V-0 |
| Qualification Standards | IEC 60603-7-1:2011 |

## Standards

ISO/IEC 11801, IEC 60603-7, RoHS, UL

## Ordering Information

| P.N | Description |
|---|---|
| **USHP1N11** | VOYGAR US Horizontal 1-Port keystone jack Un-shuttered Faceplate, White. |
| **USHP1N11** | VOYGAR US Horizontal 1-Port keystone jack Un-shuttered Faceplate, White. |
| **USHP1N12** | VOYGAR US Horizontal 2-Port keystone jack Un-shuttered Faceplate, White. |
| **USHP1N13** | VOYGAR US Horizontal 3-Port keystone jack Un-shuttered Faceplate, White. |
| **USHP1N14** | VOYGAR US Horizontal 4-Port keystone jack Un-shuttered Faceplate, White. |
| **USHP1S11** | VOYGAR US horizontal type one port Keystone Shuttered Faceplate, white. |
| **USHP1S12** | VOYGAR US horizontal type two port Keystone Shuttered Faceplate, white. |

# UK 2-piece type Faceplates



## Features

UK Style with shutter against dust and labelling plate.

## General Specifications

| | |
|---|---|
| Product Type | UK type faceplate |
| Faceplate Material | ABS High Impact UL-94V-0 Thermoplastic |
| Colour | Ivory |
| Mount Type | Flush |
| Total Ports, quantity | 1, 2 or 4 ports |
| Application | Used for External outlets |
| Includes | UK flush mount faceplate (1) Mounting screw (2) |
| Interface Type | Keystone type |
| Shield Type | UTP, STP |
| Category acceptance | CAT6, CAT6A |
| Height | 86 mm |
| Width | 86 mm |
| Flammability Rating | UL 94 V-0 |

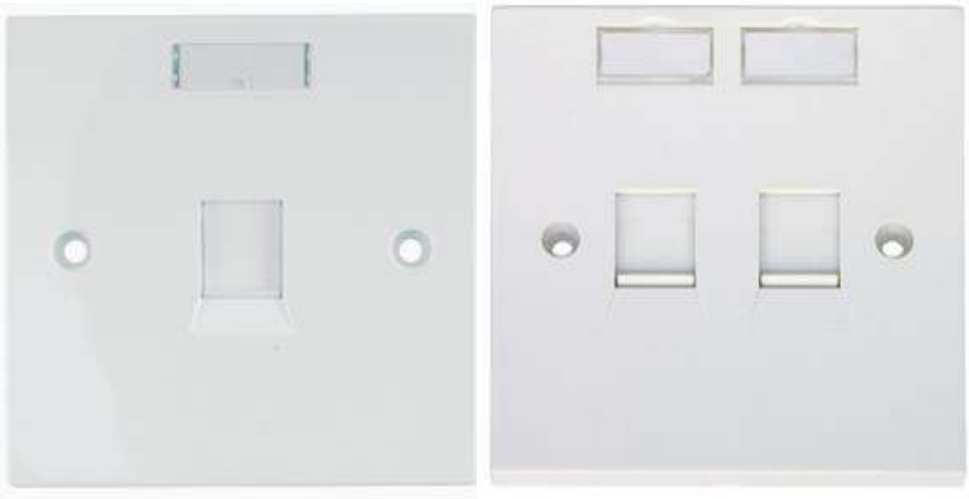
## Standards

ISO/IEC 11801, IEC 60603-7, RoHS, UL

## Ordering Information

| P.N | Description |
|---|---|
| UKHP2N11 | VOYGAR UK 2-piece type 86*86mm 1Port keystone Faceplate |
| UKHP2N12 | VOYGAR UK 2-piece type 86*86mm 2Port keystone Faceplate |
| UKHP2N14 | VOYGAR UK 2-piece type 86*86mm 4Port keystone Faceplate |
| UKHP2S11 | VOYGAR UK 2-piece type 86*86mm 1Port keystone Shuttered Faceplate |
| UKHP2S12 | VOYGAR UK 2-piece type 86*86mm 2Port keystone Shuttered Faceplate |
| UKHP2S14 | VOYGAR UK 2-piece type 86*86mm 4Port keystone Shuttered Faceplate |

# UK 1-piece type Faceplates



## Features

UK Style with shutter against dust and labelling plate.

## General Specifications

| | |
|---|---|
| Product Type | UK type faceplate |
| Faceplate Material Type | ABS, UL94-HB |
| Colour | Ivory |
| Mount Type | Flush |
| Total Ports, quantity | 2 |
| Application | Used for External outlets |
| Gangs, quantity | 1 |
| Includes | UK flush mount faceplate (1) Mounting screw (2) |
| Package Quantity | 1 |
| Packaging Type | Bag |
| Interface Type | Keystone type |
| Shield Type | UTP, STP |
| Category acceptance | CAT6, CAT6A |

## Standards

ISO/IEC 11801, IEC 60603-7, RoHS, UL

## Ordering Information

| P.N | Description |
|---|---|
| UKHP1S11 | VOYGAR UK 86*86mm 1Port keystone Faceplate |
| UKHP1S12 | VOYGAR UK 86*86mm 2Port keystone Faceplate |

# UK adapter type Faceplates






## Features

UK flush mount faceplate frame, 86x86 mm
Color: Pure white

## General Specifications

| | |
|---|---|
| Product Type | UK horizontal type |
| Faceplate Material Type | ABS UL-94V-0 |
| Colour | White |
| Mount Type | Flush |
| Total Ports, quantity | 1 or 2 ports |
| Application | Used Internal outlets |
| Includes | UK flush mount faceplate (1) Mounting screw (2) |
| Packaging weight | 0.03kg |
| Interface Type | Adapter type |
| Shield Type | UTP, STP |
| Category acceptance | CAT6, CAT6A |
| Flammability Rating | UL 94 V-0 |

## Faceplate dimensions

| | |
|---|---|
| Height | 86 mm |
| Width | 86 mm |
| Depth | 10 mm |

## Adapter dimensions

| | |
|---|---|
| Height | 25 mm |
| Width | 39 mm |
| Depth | 19 mm |

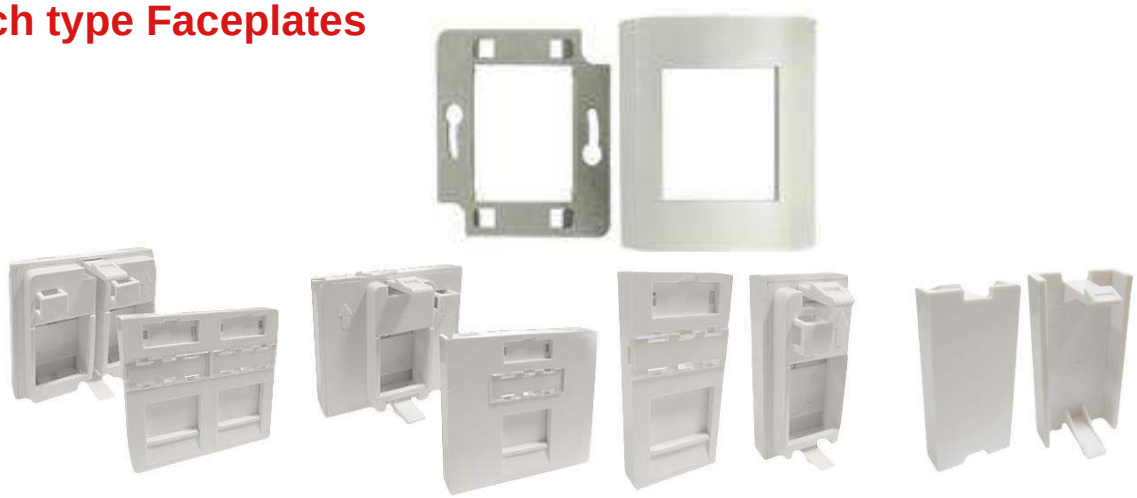
## Standards

ISO/IEC 11801, IEC 60603-7, RoHS, UL

## Ordering Information

| P.N | Description |
|---|---|
| UKHP1N11 | VOYGAR UK type, adapter type 86*86, one port faceplate, white. |
| UKHP1N12 | VOYGAR UK type, adapter type 86*86, two port faceplate, white. |
| UKHA1N11 | VOYGAR Keystone adapter |
| UKHA1N10 | VOYGAR Blank adapter |

# French type Faceplates



This sturdy surface mount wall plate is specially designed for mounting modular inserts for the so-called Mosaic System. This system is mainly used in French-speaking countries as well as in many countries in Eastern and Southern Europe.

## Features

French flush mount faceplate frame, 80x80 mm
With 1x45x45mm inner window for modular inserts
Colour: Pure white

## Standards

ISO/IEC 11801, IEC 60603-7, RoHS, UL

## General Specifications

| | |
|---|---|
| Product Type | French type |
| Faceplate Material | ABS High Impact UL-94V-0 |
| Bracket Material | SPCC with Zinc Undercoat |
| Screw Materials | Cross Recessed Round head 3*6mm Self-taping Nickel plated |
| Colour | White |
| Mount Type | Flush |
| Total Ports, quantity | 2 |
| Application | Used Internal outlets |
| Gangs, quantity | 1 |
| Includes | French flush mount faceplate (1)<br>Mounting screw (2) Metal bracket (1) |
| Packaging weight | 0.05kg |
| Flammability Rating: | UL 94 V-0 |

## Faceplate dimensions

| | |
|---|---|
| Height | 80 mm |
| Width | 80 mm |
| Depth | 10 mm |

## Adapter dimensions

| | |
|---|---|
| Height | 22.5 mm/ 45mm |
| Width | 45 mm |
| Depth | 10 mm |

## Ordering Information

| P.N | Description |
|---|---|
| FRHP2N11 | VOYGAR French type 80*80, one port with metal bracket faceplate |
| FRHP2N12 | VOYGAR French type 80*148, one port with metal bracket faceplate |
| FRHA4S11 | VOYGAR French type 45*45 snap-in one port Adapter |
| FRHA4S12 | VOYGAR French type 45*45 snap-in two port Adapter |
| FRHA2S11 | VOYGAR French type 22.5*45 snap-in one port Adapter |
| FRHA2S10 | VOYGAR French type 22.5*45 snap-in Blank Adapter |

# Back Boxes



## Features

45mm or 42mm deep to allow enough cable bend for most applications.
The Single Gang Back Box is a surface mounted single back box for 80mm or 86mm wide faceplates.
For the correct heading joint, you can do test and maintenance in the front.

## General Specifications

| | |
|---|---|
| Product Type | French type |
| Back Box Material | High Impact ABS UL-94V-0 Fire-retardant |
| Color | White |
| Mount Type | Flush |
| Application | Used External outlets |
| Includes | Back Box (1) mounting screw (2) |
| Flammability Rating | UL 94 V-0 |

## French type dimensions

| | |
|---|---|
| Height | 80 mm |
| Width | 80 mm |
| Depth | 45 mm |

## UK type dimensions

| | |
|---|---|
| Height | 86 mm |
| Width | 86 mm |
| Depth | 45 mm/ 42mm |

## Standards

ISO/IEC 11801
IEC 60603-7
FCC part 68-F
RoHS
UL

## Ordering Information

| P.N | Description |
|---|---|
| FRHB8045 | VOYGAR French type 80*80*45 back box |
| UKHB8645 | VOYGAR UK type 86*86*45 back box, white. |
| UKHB8642 | VOYGAR UK type 86*86*42 back box, white. |

# Surface Mount Box for Keystone jack



## Features

Easy open and close snap cover
Easy to use and install
Includes screws, padded dual sided tape and cable tie
UL Listed Certified
Colour: Pure white

## General Specifications

| | |
|---|---|
| Type | UTP Keystone JACK Box |
| Colour | White |
| Weight | 0.06 lbs. |
| Faceplate Material | ABS UL-94V-0 |
| Application area | Flush-mounting (FM) |
| Total Ports, quantity | 1 /2 ports |
| Flammability Rating: | UL 94 V-0 |

## 1port dimensions

| | |
|---|---|
| Depth | 65.25 mm |
| Height | 32.20 mm |
| Width | 42.50 mm |

## 2port dimensions

| | |
|---|---|
| Depth | 65.25 mm |
| Height | 32.20 mm |
| Width | 61 mm |

## Standards

ISO/IEC 11801, IEC 60603-7, RoHS, UL

## Ordering Information

| P.N | Description |
|---|---|
| SMHB2N11 | Surface Mount Box 1 port for Keystone jack. |
| SMHB2N12 | Surface Mount Box 2 port for Keystone jack. |

VOYGAR

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